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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 1

I. An Industrial and Social Study of Memphis
II. School Organization, Supervision, and Finance
III. The Building Problem

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
  Chapter II. School Organization, Supervision, and Finance.
  Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
  Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*
Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*
Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*
Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*
Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*
Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*
Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*
Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*
F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*
John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*
Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*
George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
  Chapter II. School Organization, Supervision, and Finance.
  Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
  Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

Part 1.

CHAPTER I. AN INDUSTRIAL AND SOCIAL STUDY OF MEMPHIS.

CONTENTS..—Strategic position for trade; Population and nativity; A distributing market: Industries and occupations; Social consciousness of Memphis; Threshold of a new era; Educational needs based on social and industrial conditions; Initiative and ability to think; Knowledge of agriculture; Knowledge of science; Knowledge of mechanics; Of exchange, marketing, shipping; Physical health; Social and civic development.

One hundred years ago a small settlement of 53 people founded the town of Memphis on the Chickasaw Bluffs overlooking the Mississippi River. The only communication which this little community had with the outside world was through the slow transportation of river barges and flat boats, and the leisurely travel of pack horses and traders across the plains and through the mountains of Tennessee. Trade in the city was limited to a single Indian trading post on Commerce Street, and the only manufactory was the smithy of the blacksmith and gunsmith, who repaired the muskets of the Indian hunters. In 1832 the first church was established, and in 1848 the first public school was started—29 years after the founding of the town.

One hundred years later, in May, 1919, the "Memphis Special," from New York City, and other trains over the 17 railroads which now enter Memphis, landed visitors to the centenary of the town in a city which bore all the earmarks of a prosperous American city, even of a booming western city. Skyscraper office buildings, factories covering blocks of building space, giant smokestacks to the south and north, made a sky line along the old Chickasaw Bluffs which reminded the traveler of New York City. Large hotels with cool corridors and metropolitan cuisines, department stores the duplicate of those in any large city, innumerable quick-lunch eating places, a clanging street-car system, whirring autos and auto trucks moving incessantly like shuttles back and forth through the city, the spacious, comely residential district of the well-to-do to the east, the factory district to the southwest, the cosmopolitan character of Second and Beale Streets, with Russian, Yiddish, and Italian names—all these things made the visitor feel at home, as he might in Detroit or Cleveland, New York or Pittsburgh. Only the great bales of cotton trundling down the street behind sturdy mules; the soft southern accent, and the leisurely movements of the people on the streets, their gentle courtesy and graciousness in place of the usual western rush and hurry reminded one that he was in a southern city.

What has transformed Memphis in 100 years from the little frontier settlement of 1819 to the most important city on the Mississippi between St. Louis and New Orleans? What has made it the chief city of the Tri-States (Arkansas, Mississippi, Tennessee); the largest cotton and hardwood lumber market in the world; and the chief distributing center for the central South? What is the character of the population which now makes up the city? What proportion is white or colored, or foreign born? How do the masses of the people earn their living? What are the industrial conditions and industrial needs of the community? What are the social conditions of the community? What are its amusements and recreations? How does the civic spirit express itself?

If the industrial life of the city has grown from a single blacksmith's shop to hundreds of factories and stores, has the educational system grown in proportion, or, as so often happens in rapidly growing American cities, is it still 30 years behind the material growth of the city? If so, what are the reasons for such a condition; and in what respects should the system be changed to meet the changed social and industrial conditions?

Since the schools were created by the people to meet the needs of the community, it is essential that such questions be answered before the educational system of the city can be fairly appraised. It is necessary that a careful first-hand study of conditions be made in order to determine whether the schools are educating the rising generation of children so that they will not only carry on the best traditions of the community, but also improve on its previous ideals of living and working in accordance with changed social and industrial conditions. For these reasons, the survey staff undertook a preliminary study of the social and industrial life of Memphis as a basis for determining the needs of the community, and the extent to which the schools were meeting these needs.

THE PIONEER SPIRIT AND THE STRATEGIC POSITION FOR TRADE.

The two chief factors in the development of Memphis have been its daring, pioneer spirit, and its strategic position for trade. Neither one without the other would have been sufficient to explain its rapid growth.

The history of Memphis up to the present generation has been a dramatic story of overcoming what seemed at times insuperable material obstacles. It is a story rich in educational value for the study of history, geography, economics, and civics. From 1541, when De Soto first entered the village of Chisca on the bluff where Memphis now stands, until 1796, when the State of Tennessee was admitted into the Union, the place which was later to become Memphis was a battle ground for the possession of which the Spanish, French, and English, the Indians and the Americans contended. Even in those days the value of the future city as a connecting link between the East and West was recognized, for it was the best available crossing place of the Mississippi between the mouth of the Ohio and the Gulf of Mexico. The years between 1796 and 1818 saw the final driving out of the Spaniards and Indians by the Americans. During that period the existence of the country about Memphis as a hunting ground for the Indians, and as a battle ground for possession by the whites passed into history. In 1818 the opening up of the rich agricultural lands of western Tennessee attracted settlers and investors, and the struggle for existence as the chief trading post of the agricultural region of the middle South was begun.

Up to 1818 the story of the locality which was later to become Memphis was the usual story of American pre-Revolutionary and Revolutionary War days. But during the next 100 years the city was subjected to trials beyond the experience of the average city. In 1873 and in 1878–79 the city suffered greatly from epidemics of yellow fever, and was almost hopelessly involved in debt. The people of the city, realizing that the situation was critical and that "complete sanitation and a pure water system" were fundamental necessities for the salvation of the city, sought the most expert advice in the country and finally adopted a new plan of sewerage originated by Col. George E. Waring, jr.[1] This system had not been previously used to any extent. "Its failure was predicted by other engineers, but notwithstanding their predictions, it succeeded, and those who once opposed it, have since adopted it."

The significant point, however, is that the city attacked its problem not by a rule-of-thumb method but by deliberately mobilizing the best scientific knowledge of the country, and then having the courage to try a new system which had not been tested and proved, but which seemed reasonable and economical. In other words, Memphis carried over into the solution of her civics problems her old pioneer habit of daring to experiment and to attempt the new and untried.

But if the spirit of initiative and daring enterprise explains the growth of Memphis, it is equally true that the city's strategic position for trade attracted men and women with that spirit and tended to develop it. From the days when De Soto first used it as the best connecting link between east and west, and the old Chief "Chisca started the first agricultural system in the locality," the existence of a rich agricultural country, with products to be transported and distributed, and a strategic position for such transportation and distribution, have developed the small settlement of 1818 into the chief distributing market of the central South.

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[1] History of Memphis, Tenn. Judge J. P. Young, p. 195.

Let us consider what the city has now become, how the social and industrial conditions have changed, and in what way these changed conditions necessitate changes in the educational system.

MEMPHIS TO-DAY—POPULATION AND NATIVITY.

Estimates of the population are difficult to obtain, because the 1900 census returns for Memphis have been rejected as unreliable, but the best evidence available indicates that in 1918 the population was 157,000, including approximately 60,000 negroes.[1]

For the purposes of the survey, however, the exact number in the population is not as significant as its general character, i. e., the nationality of the people, how long they have lived in the city, and whether the community is homogeneous in character.

As there were no figures in regard to nationality later than 1910, it was decided that the best method of getting information about the general character of the population would be through a study of the nativity and occupations of the parents of public-school children. It was evident that such a group, although not comprising all elements in the city, would represent more nearly than any other the general character of the bulk of the population. Consequently, a questionnaire was sent out to the parents of all public-school children asking them to state where they were born and what was their occupation.

The returns from this questionnaire show the tendency of the city to rapid growth, for it is evident from the figures that a large part of the present population was not born in or near Memphis, but has been attracted from all parts of the country. For example, there were 11,781 white parents who answered the questionnaire. Of this number, 10,352 were born in the United States. They came from 43 different States. Although 6,760, or about two-thirds, were born in the Tri-States (Arkansas, Mississippi, and Tennessee), there were only 183 who were born in Memphis; 3,592, or nearly one-third, were born outside the Tri-States, and of this number there were nearly as many from the West and North (1,750) as from what are commonly known as the Southern States (1,842). (See Table 1.)

---

[1] As the census is taken only every 10 years it is customary to estimate the population for the intervening years by taking the average yearly increase between two successive census reports, and assuming that this will be the average for the succeeding 10 years. Since the census of 1900 has been rejected, we are left without a basis of comparison. But, by taking a 20-year interval we find that the census of 1890 gave a population of 64,495, and the census of 1910 gave a population of 131,105—an increase of 67,000 in 20 years. At this rate of increase, 3,350 per year, there would be a gain of 26,000 people since 1910. This number, added to the census returns of 1910 (131,105) would give a population in 1918 of 157,000. The city board of health estimate for 1918 is 160,000. This estimate is based, however, upon a more restricted area than will be included in the next census. Considering the additional area, the next census should give a population of at least 185,000 or 200,000 people.

TABLE 1.—*Birthplace of native-born white parents of public-school children, Memphis, Tenn.*

Number of States represented		43
Number of parents born in Memphis, Tenn		183
Number of parents born in the Tri-States, exclusive of those born in Memphis:		
State.	Number of parents.	
Arkansas	454	
Mississippi	2, 256	
Tennessee	3, 867	
		6, 577
Number of parents born in Southern States, exclusive of Tri-States:		
Alabama	442	
District of Columbia	2	
Florida	23	
Georgia	211	
Kentucky	561	
Louisiana	118	
Maryland	46	
North Carolina	68	
South Carolina	55	
Texas	166	
Virginia	130	
West Virginia	20	
		1, 842
Number of parents born in Western and Northern States:		
California	10	
Colorado	1	
Connecticut	6	
Delaware	1	
Illinois	349	
Indiana	276	
Iowa	64	
Kansas	56	
Maine	11	
Massachusetts	16	
Michigan	80	
Minnesota	24	
Missouri	302	
Montana	11	
Nebraska	7	
Nevada	2	
New Jersey	14	
New York	144	

TABLE 1.—*Birthplace of native-born white parents of public-school children, Memphis, Tenn.*—Continued.

Number of parents born in Western and Northern States—Continued.

State.	Number of parents.	
North Dakota	9	
Ohio	200	
Oklahoma	13	
Pennsylvania	104	
Rhode Island	3	
South Dakota	10	
Utah	1	
Vermont	3	
Washington	3	
Wisconsin	30	
		1,750
Total number of white parents born in the United States		10,352

The questionnaire also revealed the fact that there is a larger number of foreign born in Memphis than is generally believed. A chamber of commerce report of 1919 estimates the number of foreign born as 1 per cent of the population, whereas the questionnaire shows that, of 11,781 parents of public-school children, 1,429, or 12 per cent, were foreign born. There were 22 nationalities distributed as follows:

TABLE 2.—*Birthplace of white foreign-born parents of public-school children, Memphis, Tenn.*

Country.	Number of parents.
Russia	577
Italy	145
Germany	140
Austria-Hungary	135
England	88
Poland	81
Belgium	63
Ireland	35
Scotland	32
Canada	32
France	20
Sweden	15
Roumania	14
Switzerland	13
Greece	12
Denmark	11
Norway	7
Holland	4
Turkey	2
Bermuda	1
Galicia	1
Moravia	1

It will be seen from this table that the largest number are Russian (577). It should be noted, however, that those who signed made no distinction between Russian and Russian Jews. The next largest group is Italian (145), followed by the Germans (140), and Austro-Hungarians (135). The number from Great Britain and Canada, when combined, was 187.

In other words, counting the foreign-born parents and the parents born outside the Southern States, it is found that together they make up over one-fourth (3,179) if the total number of parents of the school children.

The replies received from the 3,801 Negro fathers and mothers show, on the other hand, that the large majority (3,183) were born in the Tri-States, although only 171 of these were born in Memphis. (See Table 3.) Only 81 were born outside the Southern States.

TABLE 3.—*Birthplace of Negro fathers and mothers of public-school children, Memphis, Tenn.*

Number of States represented		27
Number of parents born in Memphis		171
Number of parents born in the Tri-States, exclusive of Memphis:		
State.	Number of parents.	
Arkansas	145	
Mississippi	1, 542	
Tennessee	1, 325	
		3, 012
Number of parents born in the Southern States, exclusive of the Tri-States:		
Alabama	264	
District of Columbia	6	
Florida	4	
Georgia	79	
Kentucky	25	
Louisiana	73	
North Carolina	35	
South Carolina	20	
Texas	11	
Virginia	20	
		537
Number of parents born in Western and Northern States:		
Arizona	9	
California	2	
Connecticut	1	
Illinois	17	
Indiana	2	
Iowa	1	
Kansas	2	
Massachusetts	1	
Michigan	2	
Missouri	18	
Montana	3	
New York	6	
Ohio	11	
Oklahoma	4	
Pennsylvania	2	
		81
Total number of Negro parents		3, 801

The significance of these facts about population, both with regard to the educational and the civic problems of the city, will be taken up later.

MEMPHIS AS THE DISTRIBUTING MARKET FOR THE CENTRAL SOUTH.

Memphis is essentially a great distributing center, rather than an industrial city. It started as a market for the products grown in the surrounding country, and has developed along this line until now it is a great clearing house for the central South. The report of the chamber of commerce for 1919 refers to Memphis as the largest inland cotton and hardwood lumber market in the world. But from the point of view of the growth of the city, the significant fact is how Memphis, starting as the market for these two products, has applied far-sighted scientific methods to the further development of the surrounding country so that the city might become the market for an even greater variety of goods.

The two best examples of this deliberate planning to knit together the interests of the country and city for the future as well as for present commercial development are found in the work of the Farm Bureau and of the Alluvial Land Association. It was recognized by the business men of the city that if the land was not to be worn out and the future production of cotton injured it would be necessary to impress upon farmers the importance of scientific farming and of the value of the diversification of crops. But in attempting this the city met with the usual inertia of habit and custom. Therefore, the Farm Bureau was established by the chamber of commerce. It operates in the Tri-States, working in cooperation with the Department of Agriculture and sending out agents to demonstrate new methods and the use of new machinery. It has developed, in addition to the two markets already established—cotton and lumber—markets for live stock, corn, molasses, poultry and butter, peanuts, and watermelons. A report of the bureau states that, as an example of how these markets are growing, in the year 1914 only 10,000 hogs were shipped from Mississippi to St. Louis, while 65,000 head were shipped in the month of March, 1918, alone.

Recognizing, also, that efficient production can not continue unless the general standard of living is raised and better food for the family and a greater variety of it produced on each farm, the bureau is now putting forth a great deal of effort to persuade the farmers to make each farm self-sustaining. To that end, as the Farm Bureau bulletin states, their slogan is "a garden and 25 hens and 2 cows for every family." Everyone who knows the southern farms, with the great acres of cotton growing up to the very door of the house, will appreciate what such a campaign means for the social as well as for the commercial development of the country.

In the same way the Alluvial Land Association is anticipating the possible exhaustion of the lumber supply and the use of the land for other purposes. The lumbermen decided that the cut-over lands in the alluvial regions would be more profitable for growing cotton than for reforesting. Therefore they established the Alluvial Land Association, to analyze the land and to develop farming and the producing of cotton. After the first timber is cut down, experts analyze what is left on the land, in order to determine what can still be cut for lumber, what can be used for manufacturing, and what can be converted into chemical by-products.

There is no question, of course, but that both these associations were formed for purely commercial purposes; i. e., to develop Memphis so that people would buy and sell there. But this does not affect the point that the very existence of these associations shows a recognition of the fact that such development can only be brought about through the interrelation of efforts and a spirit of cooperation and mutual understanding. In other words, the same spirit which led to solving the problem of how to make Memphis a fit place to live in is now evident in these attempts to lay the foundation for the assured commercial development of the city through a scientific study of trade conditions and a deliberate planning for the future.

THE INDUSTRIES OF MEMPHIS.

Is the city applying the same scientific foresight to the problem of her industrial development as she is to that of her agricultural and commercial development?

Although Memphis is essentially a distributing market rather than a manufacturing center, yet the indications are that it is tending to become more and more of an industrial city.

It was not difficult to get an idea of the general industrial development of the city, for the chamber of commerce had already started to list the industrial establishments. According to their report, published in 1919, there were 355 manufacturing establishments in the city. The list would indicate that there is no one predominant industry, but that many different industries have sprung up as a result, apparently, of two things, (1) the attempt to develop as many by-products as possible from the two main industries—cotton and lumber, and (2) the tendency of the farmers of the surrounding country to buy their farm and household supplies in Memphis rather than in the North, as formerly—another result of the work of the Farm Bureau.

A careful and comprehensive study of trade opportunities in Memphis had also been made by the chamber of commerce, and detailed information was available in regard to "raw materials," "transportation facilities," "freight costs," "hardwood outputs," "freight rates on logs," "the annual output of veneers,' "fuel supply," etc.

But when the attempt was made to secure specific information in regard to the number of workers in each industry, the kind of work demanded, and the conditions of work, it was found that there was no detailed or comprehensive information on these subjects. The census for 1910 was of little value, because conditions have changed so radically in the past 10 years. It is true that the chamber of commerce had made the following estimate of the number of workers:

> Male labor, about 35,000 unskilled and 15,000 skilled laborers in Memphis, of whom it is estimated 20,000 unskilled and 7,500 skilled are in industries. Female labor, 7,500 unskilled and 2,500 skilled. Estimated that 3,000 unskilled and 1,000 skilled are in industries.

These figures, however, are only an estimate, and are too general to be of much value in estimating the growth of the different industries from the standpoint of the number of workers employed or in getting an understanding of the types of work demanded. The classification of work as "skilled" or "unskilled" is of little value in determining the actual kind of work performed, for the terms "skilled" and "unskilled" mean little now in industry, since what they mean to-day they may no longer mean to-morrow.

In order to get more specific information, therefore, it was decided to make a study of the occupations of the parents of public-school children. It was recognized that such information would not cover all the workers in the city, but that it would give a fair sampling of the kinds of work done by the majority of workers. Replies to the questionnaire were received from 7,492 white fathers. The following table groups their occupations according to the general census classifications:

TABLE 4.—*Classification of occupations of white fathers of public-school children, Memphis, Tenn., 1919.*

Occupations.	Number of workers.		Occupations.	Number of workers.	
Agriculture	331		Attending school	1	
Extraction of minerals	3		Fathers dead	440	
Manufacturing and mechanical	1,934		Fathers invalid	10	
			No occupation	12	
Transportation	835		Not given	282	
Trade	1,534		Retired	17	
Professional service	425		Specific occupation not given[1]	817	
Public service	293				
Domestic service	88				1,579
Clerical occupations	470				
		5,913	Total		7,492

These figures indicate that, as has already been suggested, the number of workers in manufacturing is already rivaling the number of workers in the trade group. In fact, if we compare the number in trade alone (1,534) with those in manufacturing, it is found that there is a larger number in manufacturing and mechanical pursuits (1,934), while even if those in trade (1,534) and transportation (835) are combined, making a total of 2,369, still the number in manufacturing is 81 per cent of those engaged in trade and transportation. The importance of agriculture in the development of the city is shown by the fact that there are nearly as many in agriculture (331) as in professional pursuits (425).

---

[1] Information was too general to be of use, e. g., "Drug store" meant nothing, since the person giving the information may have been either a clerk or the owner. All replies containing such general information were therefore omitted from the above list.

The classification of workers under the above general headings shows where the greatest number of workers is concentrated, but it tells little about the variety and range of work. The following table (Table 5) lists the specific occupations as they were given by each worker, and later tabulated according to the census classification. It shows that there were 5,913 workers engaged in 366 different occupations. There were 10 different occupations in agriculture and 2 in "extraction of minerals." There were 145 different kinds of occupations listed under manufacturing, in which 1,934 workers were engaged. Only 251 of these were in the group of owners, proprietors, and managers, leaving 1,683 workers in 137 different industrial occupations.

Table 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19.*

Occupations.	Workers.	
Agriculture, forestry, animal husbandry		331
Dairyman	10	
Farmer	165	
Fisherman	2	
Forest engineer	1	
Gardener	10	
Log scaler	1	
Logging superintendent	1	
Lumberman	79	
Lumber inspector	16	
Planter	46	
Extraction of minerals		3
Coal-mine superintendent	1	
Miner	2	
Manufacturing and mechanical		1,934
Manufacturing manager	90	
Manufacturer	33	
President of manufacturing company	14	
Manufacturing and mechanical—Continued.		
Proprietor of manufacturing company	10	
Representative of manufacturing company	7	
Secretary of manufacturing company	16	
Superintendent of manufacturing company	70	
Vice president of manufacturing company	11	
Axle turner	1	
Auto upholsterer	1	
Baker	24	
Bandsaw filer	27	
Barrel-stave cutter	1	
Belt maker	1	
Bicycle repairer	2	
Blacksmith	31	
Boiler inspector	1	
Boiler maker	29	
Bolt cutter	2	

TABLE 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19*—Continued.

Occupations.	Workers.
Manufacturing and mechanical—Continued.	
Bookbinder	3
Bottle maker	1
Box nailer	1
Brewer	1
Bricklayer	27
Broom maker	4
Building-material estimator	1
Cabinetmaker	35
Candy maker	6
Carpenter	251
Carver	1
Calker	1
Cement finisher	1
Cement worker	1
Chair maker	1
Chipper and corker	1
Cigar maker	7
Concrete worker	1
Contractor	158
Cooper	2
Coppersmith	1
Decorator	11
Designer	2
Distiller	1
Door and sash maker	1
Electrical engineer	9
Electrical worker	45
Engraver	2
Farm machine expert	1
Finisher	2
Florist	6
Foreman	66
Foundry man	1
Fruit packer	1
Garment cutter	3
Gas fitter	1
Gas maker	3
Gin wright	2
Glass worker	2
Glazier	2
Grinder	2
Gunsmith	3
Hand-made furniture maker	1
Hardwood floor grader	1
Hardwood floor layer	4
Harness maker	6
Hatter	1
Heading inspector	1
Heading jointer	2
Horseshoer	2
Hot-air heating engineer	1
House mover	2
Inspector	2
Interior marble setter	1
Ironworker	4
Jeweler	17
Jobber	1
Laborer	23
Leather worker	16
Linotype operator	10
Machine operator	12
Machinist	99
Maker of bags	1
Marble cutter	2
Marker at box factory	1
Mattress maker	1
Mechanical engineer	6
Miller	10
Mechanic	92
Millwright	54
Molder man	3
Oil refiner	2
Oil mill operator	2
Packer	4
Painter	88
Paper cutter	1
Paper hanger	7
Pattern maker	9
Piano tuner	3
Pipe fitter	9
Plasterer	6
Plumber	34
Printer	50
Puncher	1
Repair man	1
Rigger	1
Riveter	1
Roofer	6
Safe expert	1
Saw repairer	1

TABLE 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19*—Continued.

Occupations.	Workers.	
Manufacturing and mechanical—Continued.		
Sawyer	17	
Shade maker	1	
Sheet metal worker	14	
Ship builder	2	
Shipwright	1	
Shipper	1	
Shoemaker and repairer	36	
Sign writer	1	
Slater	1	
Spoke inspector	1	
Spoke turner	10	
Stair builder	2	
Stationary engineer	23	
Steam engineer	2	
Steam fitter	5	
Steam heat inspector	1	
Steel worker	3	
Stereotyper	6	
Still man at chemical plant	1	
Stock keeper (automobile)	1	
Stonecutter	4	
Stonemason	2	
Tailor	115	
Tile setter	3	
Timber cutter	1	
Tinner	12	
Tractor demonstrator	1	
Turner Handle Co.	1	
Valve man	2	
Veneerer	1	
Watchmaker	6	
Well borer	2	
Wheel maker	1	
Window trimmer	1	
Wood machinist	2	
Wood maker	7	
Transportation		835
Baggage checker	5	
Block operator	1	
Brakeman	9	
Bridge building, R. R	1	
Bridge dispatcher	2	
Transportation—Continued.		
Bridge foreman	3	
Bridge inspector	1	
Captain on ship	2	
Car builder	1	
Car carpenter	23	
Car inspector	30	
Car knocker	3	
Car repairer	24	
Carman	7	
Chauffeur	4	
Claim agent, R. R	3	
Complaint agent, R R	1	
Conductor, R. R	116	
Conductor, street railway	21	
Depot agent	1	
Development department of agriculture, Frisco R. R	1	
Dredgeman	5	
Engine inspector	1	
Express company agent	2	
Express instructor	1	
Expressman	7	
Federal treasurer, R. R	2	
Fireman	17	
Flagman	13	
Foreman of railroad shop	60	
Foreman of telephone company	2	
Freight agent	8	
Freight traffic representative	2	
Gateman, R. R	1	
Housing superintendent, shipyard	1	
Inspector, R. R	20	
Lineman	1	
Locomotive engineer	138	
Marine engineer	6	
Master of dredge	1	
Master of lighthouse tender	1	
Messenger	6	

TABLE 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19*—Continued.

Occupations.	Workers.	
Transportation—Continued.		
Motorman, street railway	50	
Pilot	7	
Porter	3	
Railroad employee	58	
Railroad officers	3	
Railway storekeeper	1	
Safety applicant, R. R	1	
Sailor	4	
Signal inspector	2	
Signal maintainer	1	
Special station agent	10	
Stable boss	1	
Station master	1	
Steamboat engineer	2	
Steamboat man	2	
Steamboat owner	1	
Superintendent motive power, R. R	1	
Superintendent of transportation, R. R	2	
Supervisor, R. R	2	
Switchman	45	
Telegrapher	27	
Telephone company, assistant manager	1	
Telephone engineer	1	
Telephone installer	1	
Telephone lineman	1	
Telephone operator	1	
Ticket agent	7	
Timekeeper	2	
Tool man	1	
Towerman	2	
Trackman	1	
Train caller	1	
Train dispatcher	12	
Trainman	4	
Train master	1	
Trunker at station	1	
Valuation engineer, R. R	1	
Wire chief	3	
Wrecker, R. R	2	
Yard master	14	
Trade		1.534
Adjuster	2	
Agent	66	
Banker	13	
Broker	42	
Butcher	24	
Buyer	44	
Carrier	11	
Cleaner	1	
Cotton factor	13	
Cotton marker	3	
Cotton weigher	2	
Coupon lister	1	
Credit man	14	
Dealer	73	
Driver	26	
Floorwalker	3	
Grocer	72	
Huckster	38	
Junk dealer	9	
Manager of store	63	
Market man	2	
Meat cutter	20	
Merchant	427	
Office manager	5	
Pawnbroker	1	
Pharmacist	43	
President of company	4	
Salesman	493	
Stock keeper	2	
Superintendent of insurance company	8	
Superintendent of stores, etc.	4	
Undertaker	5	
Professional service		425
Architect	9	
Artist	6	
Chemist	7	
Chiropodist	1	
Dentist	19	
Doctor and surgeon	84	
Draftsman	2	
Editor	7	
Engineer	90	
Lawyer	68	
Lecturer	1	
Librarian	3	

TABLE 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19*—Continued.

Occupations.	Workers.	
Professional service—Continued.		
Manager of theater	1	
Masseur	1	
Minister	48	
Musician	13	
Newspaper circulator	2	
Newspaper man	3	
Newspaper manager	2	
Optometrist	6	
Photographer	6	
Playwright	1	
President of baseball association	1	
Salvation Army officer	8	
Secretary of club	9	
Stage employee	3	
Teacher	19	
Teacher, private, Hebrew	1	
Teller	1	
Tyler of Masonic Temple	1	
Umpire	1	
Usher	1	
Public service		293
City assessor	1	
City building inspector	2	
City clerk	1	
City commissioner	2	
City engineer	1	
City fireman	42	
City gas inspector	1	
City marshal	1	
Court reporter	2	
Court stenographer	2	
Custodian	8	
Deputy city treasurer	2	
Deputy sheriff	9	
Deputy county clerk	1	
Detective	12	
Federal grain supervisor	1	
Fire and police commissioner	1	
Government fleet employee	5	
Head of the State of Tennessee for labor	1	
Public service—Continued.		
Income tax specialist	1	
Inspector for U. S. Government	2	
Insurance and city finance commissioner	1	
Jailer	1	
Judge	4	
Jury commissioner	1	
Lecturer for U. S. Government	1	
Officer	3	
Park commissioner	1	
Police guard of convict camp	4	
Policeman	70	
Post-office employees	47	
Road commissioner	1	
Sanitary officer	2	
Secretary of the board of education	1	
Senior examiner of U. S. Employment Bureau	1	
Sheriff	4	
Soldier	13	
Street cleaning dept. employee	7	
Superintendent of county jail	1	
Superintendent of cemetery	2	
U. S. custom officer	1	
U. S. meat inspector	3	
Watchman	26	
Domestic science		88
Barber	53	
Butler	1	
Hotel steward	4	
Hotel superintendent	5	
Housekeeper	3	
Janitor	1	
Laundryman	15	
Owner of laundry	1	
Proprietor of pool room	1	
Proprietor of restaurant	4	

TABLE 5.—*Occupations of fathers of white children in the Memphis public schools, 1918–19*—Continued.

Occupations.	Workers.	
Clerical occupations		470
Accountant	34	
Advertising manager	2	
Auditor	22	
Bookkeeper	93	
Cashier	31	
Clerk	257	
Collector	26	
Paymaster, transfer co	3	
Proof reader	2	
Attending school		1
Father dead		440
Father invalid		10
Retired		17
No occupation		12
Not given		282
Specific occupation not given		817
Grand total		7,492

These facts are of particular importance in two respects. In the first place, they throw light upon the problem of industrial education. There is sometimes a tendency in rapidly growing industrial cities to endeavor to develop a system of rather narrow industrial training in order to fit workers for specific types of work. A glance at the table of occupations shows how futile and short sighted such an attempt would have been in Memphis, even if it were desirable from an educational standpoint, for no community could undertake the task, either financially or administratively, of training for 137 specific types of work. Moreover, by the time such training would be completed, the specific type of work or machine would doubtless have disappeared. From an educational standpoint, also, such a scheme of industrial training would be in accordance with the German method of specialized industrial education rather than the American. It is evident that Memphis business men are not likely to make the mistake of demanding that type of training, for they evidently want "brains," not "hands," developed for the industries of Memphis. For example, when they were asked what kind of training they thought should be given to the children, some replied "educate them so that they can develop more by-products from our industries," or again, "train them in the principles of mechanics," or again, "teach them how to handle tools." In other words, these men recognized the importance of science and of general mechanical ability and adaptability as compared with the narrow training which leaves a worker useless to himself and to industry when his particular machine type of work is discarded.

In the second place, to anyone familiar with industrial conditions, a glance at the table of occupations shows that Memphis has definitely passed out of the category of the small town with a few shops where there is close connection between employer and worker and where one man does many different kinds of work. Such terms as "box nailer," "barrel stave cutter," "bolt cutter," "hardwood floor grader," "hardwood floor layer," and "spoke turner" show the subdivisions and specialization of work that is characteristic of large, modern manufacturing establishments. And such development brings with it all the problems of modern industrial enterprise—problems that involve not merely a consideration of transportation facilities, raw material, cost and output, but also the relation of workers and employers. The world has moved rapidly in the past few years, and it is now a truism that in industrial organization the whole world is entering upon a new phase. There is a widespread recognition of the fact that the successful development of industry depends upon the spirit of mutual understanding and a sharing of responsible effort on the part of all engaged in industry.

In her agricultural development, Memphis has evidently recognized the importance of this mutual understanding and cooperation of all those engaged in agricultural production and distribution. What is she doing to develop this spirit in her industrial life? In the short time available for the survey it was impossible to make a thorough study of the subject, but the indications were that she was not applying the same foresight and thoughtful consideration to the subject of such cooperation in her industrial life. It was not so much that she was out of sympathy with the developments in this direction as that she had not realized their importance.

THE SOCIAL CONSCIOUSNESS OF MEMPHIS.

Memphis, throughout her history, has shown a spirit of daring enterprise and at the same time a tendency for deliberate, scientific planning for the future. She has taken stock of her weakness and of her strength and then set about improving her condition. Up to the present time, however, this spirit has been largely exhibited in connection with the material development of the town. Ultimately, however, the prosperity of the city depends upon the mass of the people of the city, upon their unity and mutual understanding, upon their intelligence, upon their good health, vitality, and industry. The development of these qualities in a community demands far more attention and scientific planning than is needed for its commercial development. It demands, in the first place, a recognition of the fact that there are social problems to be anticipated and solved. What are these social problems which Memphis faces? And what evidence is there that she recognizes them and is planning to meet them adequately?

It is evident that Memphis, as a rapidly growing trade center, is already confronted with the complicated civic, industrial, and social problems with which large industrial cities have been wrestling for years. The population is heterogeneous, mobile, attracted by the commercial prosperity of the town, but with few common bonds aside from the desire to make a living. It is a group with various inheritances, different habits of thought, and different customs of living, of working, and of enjoying life. This means that soon the city will be split up into a collection of small communities as unrelated in sympathies and interests as though they were geographically hundreds of miles apart. This is the case in cosmopolitan cities like New York, Chicago, Detroit, etc. In these cities it was only after these conditions had become fixed that settlements, civic clubs, and community plans came into existence in the attempt to unify the diverse elements in the community and interpret them to each other.

Memphis has the opportunity to profit by the experience of these cities and to anticipate and prevent this disintegration of the city into separate units unrelated to each other by any common bond. But she will be obliged to act soon, for the separation of the different elements in the city is already apparent. For example, when the foreign-born parents were listed according to schools and compared with the total enrollment in the schools, it was evident that the largest proportion of foreign-born parents is found in the Smith School, the Leath, Cummings, and Merrill. In other words the foreign element is situated, as is usually the case, in or near the business section of the city. Cummings, however, in the southern section, has a total of 108 foreign-born parents, and a school enrollment of 677.

A further indication that the city is already tending to fall apart into different class groups is shown by the study of the occupations of the white fathers. Those of the same occupational groups tend to congregate in the same districts. For example, A. B. Hill, Lauderdale, Riverside, and St. Paul have the largest number of fathers working in transportation; Lauderdale alone has 66 locomotive engineers. On the other hand, Snowdon has only 4 workers in transportation, Smith 21, and Bruce 15. But Bruce and Maury have the largest number in trade, 143 and 115 respectively; while Smith (99), Leath (105), Merrill (102), Pope (105), Riverside (132), Guthrie (162), and Cummings (121) have the largest number of workers engaged in manufacturing. Bruce, Maury, and Snowdon have the largest number in professional and agricultural work.

It is natural, of course, for people of the same pursuits and interests to live near each other, but if a city is to have unity these groups must be drawn together by some common understanding and the recognition of common interests. Memphis does not yet fully realize this, for she is evidently not giving as much attention to her human problems, on either the social or industrial side, as she is giving to the problem of her commercial development. There is a very conscious recognition of the interdependence of the city's interests with those of the surrounding country, and such organizations as the Farm

Bureau and the Alluvial Land Association are evidence of the fact that time and thought are being spent on that problem. There is very little evidence, however, of the importance of developing an interdependence of interests among the different groups in the city. The best proof of this is that there is apparently little accurate information about social conditions in the city. The Farm Bureau makes a scientific study of facts; it knows what parts of the country should be developed; it sends out people to give definite advice about such development; it knows how many hogs were shipped last year and this year; it has that information by months; it knows the people who must be reached to develop the sale of "Home Butter—Made in the Tri-States."

But in regard to social conditions there is apparently no accurate information, even in regard to the total number of people in Memphis; no available record of the number in each school district; no available record of the number of workers in each establishment in each industry. The nearest approach to a social survey of the city is an investigation which was made by the War Camp Community Service in regard to the occupations, etc., of wage-earning women. This is a valuable piece of work which should be duplicated along many lines.

In the second place, not only is accurate knowledge of conditions necessary if the social and industrial problems confronting a city are to be anticipated, but there must also be as much time and thought spent on developing a spirit of mutual understanding among the various groups in the city as is now spent on developing the spirit of cooperation between city and country. Such understanding grows out of social intercourse, public discussion, and an opportunity to share in recreation and in the thrashing out of common problems. It would seem that little time or thought or opportunity is given to such matters. There are, to be sure, the usual social agencies and commercial clubs and organizations, but the experience of other cities is that these do not reach the mass of the people, and when a city has fallen apart into distinct communities or groups, unity comes only through local district organizations which are really representative of the people, not directed from the top down. But the very fact that there are few places for such organizations to meet indicates the failure of the city to function on that side. There is no common hall or meeting place in the city for public discussion, and only two evening recreation centers. There are two large parks at the extreme edge of the city, but only nine playgrounds available for recreation and meetings.

Probably two of the most effective social agencies in the city are the Parent Teachers' Association and the Cossitt Library. The first does the local, detailed work among individuals in the districts which is so necessary for any real district organization. The second carries on a well-developed plan to reach all the people through its branches and its traveling libraries, and to make them feel that the library exists for them rather than that they exist for the library. It is a real social force in the community, the value of which can hardly be overestimated.

MEMPHIS ON THE THRESHOLD OF A NEW ERA.

Such is the social and industrial situation of Memphis. It is a growing commercial town, with alert intelligence and cooperative effort directing the commercial life of the city. But Memphis is standing upon the threshold of a new era. The generation of men who rebuilt Memphis after the disaster of 1878–79 laid a sound foundation for the future material welfare of the city. Their sons and daughters are now carrying on the work of building up the industries and agricultural possibilities of the town. They are doing it by virtue of their inheritance and training, which developed initiative, practical ability, and scientific knowledge. But their children—the present generation—are growing up in a modern industrial city with little of the opportunity for healthy work and play which gave their fathers their strength and ability. The survey of the city clearly indicates that, if the city is to grow and prosper socially and commercially, as much foresight and scientific planning must be spent upon the education of the children as has been expended upon the material development of the city. Conditions have changed, and education must be changed to meet these conditions. Are the schools of Memphis recognizing this fact? Are they giving the children of the present generation the type of education necessary to meet the changed social and industrial conditions of the city and to insure in them the development of the initiative, energy, practical ability, and scientific knowledge which modern education should give to children and which is needed for the fullest development of the children and for the welfare and prosperity of Memphis?

EDUCATIONAL NEEDS OF MEMPHIS BASED UPON AN ANALYSIS OF THE PRECEDING DATA.

The survey of the city clearly indicates that, if the best traditions of the community are to be continued and its present needs met in a way to lay the foundation for its future growth and prosperity, the people of Memphis are justified in asking that their children be given the type of education which will develop them along the following lines:

1. Development of initiative and ability to think.—It may fairly be said that Memphis would not have grown and prospered as it has if it had not been for the spirit of initiative, independent thinking, and practical ability in meeting new problems which characterized the builders of the city after the disaster of 1878–79. That spirit is Memphis's most precious heritage. Without it the future growth of the city can not be assured. Are the schools of Memphis tending to develop among their pupils the spirit of initiative and the habit of thinking for themselves? Does the teaching stimulate thinking or train merely in the capacity for answering questions? This spirit of initiative and practical ability was developed in the past generation because they faced the necessity of solving practical problems. Since then the city has grown, and with that growth much of educational value which was found on the farm and in the simple life of a smaller town has necessarily been taken away from the children. Are the schools of Memphis supplying this lack by so organizing the school work that the children have real problems to solve or only lessons to be learned?

2. Knowledge of agriculture.—It is a recognized fact that the study of agriculture and practical work in gardening has great educational value for children of any community. In the case of Memphis its practical importance is self-evident. The business men of Memphis contend that the prosperity and even the existence of the city are dependent upon the production and general prosperity of the surrounding country. This production and this prosperity are dependent upon a knowledge of scientific farming and of farm conditions on the part of the city as well as on the part of the rural community. What is needed is an educated public opinion. At present the Farm Bureau is spending much time, effort, and money to bring about such an educated point of view among adults. It is felt that the city should be able to count upon such knowledge in the rising generation.

Are the schools of Memphis educating the children in a practical knowledge of the part that agriculture plays in the life of any community, and particularly in the life of their own home city? How are they doing this? By textbook methods or by actual gardening and scientific study of soil, plants, etc.? Is this being done only in the high school or vocational school or is the mass of children in the elementary school, who never get to high school, receiving an opportunity for this work?

3. Practical knowledge of science.—No subject has greater educational value than the physical sciences, and none is more important in meeting the conditions of modern social and industrial life. To deprive children of practical scientific knowledge is to deprive them of one of the tools of freedom. In the case of Memphis the practical importance of scientific training is self-evident. The statement "teach them to make something out of our wood and out of our by-products," was made by one of the lumber manufacturers of the city. As he pointed out, the *manufacturing* of Memphis grows out of the development of the by-products of the main industries and out of supplying the needs of the surrounding country. Memphis needs for its continued development a rising generation with the practical scientific knowledge necessary to develop the industrial life of the community on scientific lines.

Are the schools of Memphis giving training in chemistry and physics? Are they doing this by laboratory methods? Are they giving the opportunity for such courses only to children in high school or vocational school or is opportunity given to the children in the elementary schools, who will make up the large majority of the future citizens and workers of the city of Memphis?

4. Practical knowledge of mechanics and ability to handle tools and machines.—For years manual work in the public schools has been considered a necessary part of any thorough education for children, whether they are going into industry or the professions. The danger in communities where there is one single large manufacturing industry has sometimes been that manual work might be interpreted in too narrow and specialized a sense. In Memphis there is little danger of that because of the great diversity of industries. Because of this diversity and because of the constant change in types of machine and handwork it is obvious that what is needed is a thorough groundwork in the principles of mechanics, in the ability to handle tools and machines, and in the power to adapt from one type of work to another.

Are the schools of Memphis giving to the children training in practical manual work and knowledge of mechanics? Are they giving this knowledge only to children in the vocational school, or are they giving the foundation of it to the large majority of children in the elementary schools who will make up the mass of citizens and workers in the future? Are the schools providing for more intensive and thorough training for older children and for adult men and women?

5. Knowledge of the principles of commercial exchange, marketing, shipping, etc.—How the products of a community are produced, marketed, and shipped has always been one of the chief subjects of study in geography in the elementary school. Memphis lends itself particularly to a rich treatment of that subject. It is a veritable mine of information and illustration for the teacher of geography and history and commercial work. As the city is a great distributing center, it should be able to count on a rising generation with (1) a thorough general knowledge of the commercial life of the city and (2) training for those older pupils who desire it in such subjects as office management, business methods, stenography, typewriting, and accounting.

Are the schools of Memphis, by a practical study of the industries and commerce of Memphis, in connection with their geography and history and arithmetic and English, developing a knowledge in the children of how the work of the world is carried on? Do they give training in office management, stenography, typewriting, bookkeeping, etc.?

6. *Physical health.*—American cities which reached their full development 20 or 30 years ago are now finding that in the building up of the city they omitted to take account of the necessity for healthful play and recreation for the children. They did not leave sufficient vacant spaces for playgrounds, recreation centers, etc., so that the next generation might not suffer for lack of the opportunity for physical development. The tendency in the average city has been to consider that one or two large parks provide this opportunity, thus ignoring the fact that under the stress and strain of modern city life the people must find their recreation and opportunity for physical development in their own immediate neighborhoods.

Is each school in Memphis providing opportunity for play for the children in its neighborhood every day? How often do the children get this opportunity for play and for how long at a time? Are supervision and playground apparatus provided?

7. *Social and civic development.*—It is evident that Memphis is weak in her development of the broader social life of the community. If serious social and industrial problems are to be avoided in the future, a means must be discovered for interpreting the different groups in the city to each other so that there may be understanding and a sense of common interests. Such a result will not come, however, unless there is some common meeting ground in each district where the people in that particular community may come to know each other, and where they may freely discuss their problems. And the place should be one which they feel is their own. The public school meets these requirements more nearly than any other organization. The school should be a real social force in the community not only for the education of the children in civic ideals but for the adults as well. Its doors should be open for recreation and for debate, for study and for play—an institution that functions in the life of everyone in the district.

Are the schools of Memphis measuring up to these requirements? Are they developing a real civic spirit in both children and adults, giving them a knowledge of the best traditions of the city and of its present needs? Are they serving as a clearing house for the activities of both children and adults?

The survey report will answer these questions and show to what extent the schools are meeting the needs of the children and of the city, and in what way the system can be improved so as to meet these needs more adequately.

CHAPTER II. SCHOOL ORGANIZATION, SUPERVISION, AND FINANCE.

CONTENTS.—1. Politics, the board of education, and the superintendent: Politics and the schools; nature of political activity; plan for nominating board of education; board and the superintendent; principles governing corporations; charter provisions; powers of board. 2. Qualifications of teachers, improvement, supervision, dismissal: Training; causes of low standards; "aid-teacher" system; eliminating the poor teacher; need of supervision; improving school corps. 3. Salaries of school employees: Present schedule; salaries compared; conditions essential to good teaching; savings of teachers; proposed salary schedule; superintendent's salary; salary of principals; janitors' salaries; a "school" for janitors. 4. Pupil promotions and failures: The present plan; failures in the grades; failures in the high schools; causes for nonpromotion; the formal examination condemned; plan recommended. 5. Ability to finance proposed program: Distribution of city expenditures; per capita expenditure on schools; tax rate; value of taxable property; attitude of taxpayers in Memphis. 6. Summary of conclusions and recommendations.

Believing that the people who know most about the conditions which prevail in the schools of Memphis are the principals and teachers who are working in the system, the survey staff, as soon as it arrived in Memphis, prepared a list of questions which was sent to every teacher and school officer in the department. This questionnaire was drawn up so as to elicit facts and opinions regarding matters of significance touching the preparation of teachers for their work; their experience; the conditions under which they are working; their salaries and their methods of procedure in conducting important phases of school work. Furthermore, each was asked to make whatever suggestions he cared to which he believed would help to better the conditions and the work.

The purpose of this questionnaire and the spirit in which it was issued are expressed in the letter which accompanied the blanks. This letter is quoted:

To the Teachers, Principals and Supervisors:

Please give the information herein called for with complete frankness. The survey does not enter the province of the individual teacher, as such, in any way. But it is necessary to get facts from individual teachers and to observe their work as individuals in order that valid conclusions of a general character may be drawn regarding the teaching work and the needs of the schools. You may, therefore, be entirely at ease respecting the survey and the visits of the members of the survey committee. The committee will be especially pleased to have each of you, including the principals and the supervisors, give a well-considered, frank reply to item No. 19. Your answers will be held in complete confidence. As soon as you have filled out the blank, kindly place it in the accompanying envelope and mail. The envelope requires no postage.

Sincerely, yours,

THE SURVEY COMMITTEE.

Item No. 19, referred to in the above communication, as printed in the questionnaire, and which called for recommendations, is as follows:

> Without discussing the matter with others, as you see the public-school problems of Memphis, what would you recommend for the improvement of the schools or of school conditions? Please enumerate briefly your most important recommendations.

NATURE OF THE REPLIES RECEIVED.

This request was responded to with frankness and intelligence, and for the most part with a commendable avoidance of the mention of the petty and annoying details which grow out of the personal friction which unavoidably arises in every situation where a number of persons are obliged to work together. The survey staff finds in these responses abundant reason for congratulating the teaching corps on the broad and comprehensive attitude which the members have taken in replying to this particular question.

While the entire range of school practice is covered in one way or another by the recommendations offered, many of the most important fall within the field of the organization, administration, and supervision of the system. Although it is impossible to discuss in detail every one of the suggestions offered, nevertheless the survey staff deems it of sufficient importance to enumerate a number of the more important recommendations and statements dealing with the administration of the system and to comment upon these.

1. POLITICS, THE BOARD OF EDUCATION, AND THE SUPERINTENDENT.

SUGGESTIONS MADE BY TEACHERS.

"Eliminate, if possible, politics from the school administration."

"The Memphis public schools should be divorced from political influences."

"No politics or religious factions in the schools."

"A strong public school board who are school men, not politicians."

"I would recommend that the schools be taken out of politics; that the superintendent, principals, etc., who are abreast of the times in education be elected and be allowed to remain in office until they are able to make their impress on the system."

"Tenure of office not to be dependent upon politics, but upon ability and efficiency."

"A board elected so that their term does not expire at the same time."

"Superintendent and principals elected for their efficiency and not for political reasons. We have had a great many changes in the last few years."

"That the only qualification for appointment to a position, whether it be that of superintendent, principal, or teacher, be fitness for the work."

"Less of 'personal pull' and more attention to efficiency in the selection of teachers in the future than in the past."

"The elimination of city politics from control of the school system."

"Remove, if possible, all influence, directly or indirectly, of politics and politicians from the schools and place all teachers and principals on a 'civil-service' basis as to tenure of office. Protect them against injustice and ask better service of them."

"Divorce the system from politics and make the city superintendent the pedagogical head of the system."

"Get politics out of the school (from the janitor to the superintendent)."

"We have had too many changes of superintendents in the last 10 years. Each had his 'hobby,' and we followed his plan as long as he remained in office. The next year there would be something new."

POLITICS AND THE SCHOOLS.

Without any doubt, to an unusual and disquieting degree the schools of Memphis have been organized and administered on a personal and political basis rather than upon the impersonal one which seeks the answer to but one question, "What is best for the children of the city?" Unfortunately for the school population of Memphis this simple criterion for judging of the worth of any policy or practice has not always been kept in clear view. Other factors have entered into the discussions and have changed the conclusions reached.

For example, many teachers have found places in the classrooms of Memphis not because they measured up to publicly announced standards of training, education, and character, but because their names were quietly suggested to some member of the board or to the superintendent by a personal friend, by a city official, or by some person of actual or prospective political influence. In instances, so the staff was informed, this influence has been powerful enough to secure exemption from the examinations which all candidates for teaching positions are presumed to take. Again, teachers have been retained in the department not because they have demonstrated their success in the classroom—indeed, in instances principals and supervisors have reported unfavorably upon their work—but because they have been so thoroughly intrenched behind powerful influences that the superintendent and the board have not dared to attempt dismissal. The principals of the system are required each term to fill out a blank which calls for a confidential estimate of each teacher in their corps and to file it with the superintendent. But principals have informed the staff that they do not dare to be frank in their rating for fear the report will prove to be a boomerang. The office, too, of superintendent of schools has, in instances, been filled because of the personal and political influence of candidates rather than because they were able to measure up to the high standards which boards should demand of those filling this high office. Similarly, superintendents have been dropped not because they have not done creditable work, but because they have incurred the hostility of individuals of powerful influence either in or out of the board, who decided the question of retention or rejection not on the basis of impersonal principle but for indirect and devious and ulterior reasons.

THE NATURE OF THE POLITICAL ACTIVITY OF MEMPHIS.

The political activity of Memphis is not a contest between two great parties, but is a struggle for supremacy among various political factions, each held together by the personality of some strong individual who is recognized as a leader of his group. Memphis, therefore, in respect to its government is for the most part kept in a seething and unstable condition. The political faction which gains the ascendancy in municipal affairs is able to do so usually because of the fact that it has succeeded in creating a machine temporarily strong enough to place it in power. This machine is generally powerful enough likewise, to control the election of the board of education; consequently it has come about that the personnel of such boards has actually been selected, not by the people in their effort to secure representatives who will express the educational convictions of their constituents, but by the leader of the particular faction which chances for the moment to be in control of municipal matters.

To illustrate, the board of education which immediately preceded the present board was a board of five men nominally elected by the people, but actually selected and placed in office by the leader of the group then in control of city affairs. While, without doubt, the leader in power instructed the board to take the schools out of politics and to keep them out, and while unquestionably he kept his hands off the board and its policies, nevertheless the method by which the board was selected is not a method that can be indorsed. In this instance it was fortunate that the leader of the political group in power was high-minded enough to recognize that the schools should be freed from politics. Nevertheless, a method of selecting boards of education should be employed which will take them out of the hands of a single individual, for it is impossible with the changing currents of political control to expect that politicians who have this exalted view of education shall always come into power. The only method by which this result can be insured is to insist that the selection of the personnel of boards of education and, in turn, of members of the school corps, including the superintendent, shall be removed absolutely and unequivocally from the struggle among factions for control of city government.

A PLAN FOR NOMINATING CANDIDATES FOR THE BOARD OF EDUCATION.

It would therefore seem desirable that the matter of nominating candidates for boards of education should be intrusted to a large committee, perhaps 100 in number, made up of representative men and women chosen for the purpose from the various civic bodies in the community which are working in a nonpolitical way for the betterment of conditions and for the progress of the city. Such a committee, coming together for the purpose of inviting representative men and women of the community to stand before the public as candidates for a place on the board of education and guaranteeing such candidates their support, would serve to induce men and women to take places on the board who, under present conditions, with various tickets in the field, backed by political machines, would be unwilling to permit their names to be used.

THE BOARD AND THE SUPERINTENDENT.

A board of education whose personnel is selected in some such manner as this would take office absolutely unpledged in respect either to persons or to policies. After making a careful study of conditions as it found them, it would seek in open discussion to block out in outline a constructive policy, broad, consistent, and planned to cover a period of years, in the light of which plan every detail as it arises would fit in as into a harmonious whole. Such a board, again unpledged either as to individuals or as to policies, would be able quickly to differentiate between the cross currents of opinion in the community and the great main stream of desire which flows steadily onward and which it should seek in its actions to define, to interpret, and to express. Such a board, too, it is to be hoped, would recognize clearly that there is a clear-cut line of demarcation between its own proper functions and the functions of the office of the superintendent. It would doubtless recognize that this matter of relationship between a board of directors and its chief executive and his corps of officers has already been well worked out in business practice; it would recognize that the primary function of a board is not executive but administrative and legislative, and that it can best serve the people of the city by determining policies and not by occupying its attention with the minutiæ of details necessary to carrying defined policies into execution. It would see to it, too, that the superintendent of schools, its chief executive officer, is an expert in all matters pertaining to school policy and practice; a person of vision, abreast of present-day educational thought, with qualities of tactful initiative, and who thereby is in a position to give the board expert advice with respect to details. With such an executive officer, together with a corps of subordinates, each an expert in his or her particular field, the board of education could well content itself with giving consideration to the reports of these officers, passing upon policies, and leaving the execution of the details to the superintendent and his experts.

This is the method which successful business houses have adopted, and it is the only method which will bring success in the immense business enterprise of conducting a city school system. Any other method employed means that members of boards of education are undertaking to do what they are not properly qualified to do and for which they should secure expert service. Too frequently, in Memphis, in consequence of a failure to recognize this distinction beween the proper function of the board of education and of the superintendent and his corps, there has been witnessed the anomalous situation of the existence of six superintendents with divided and confused authority instead of a board of education consisting of five members expressing its will through a single, forceful, and effective superintendent.

Furthermore, in progressive school administrations it is recognized that members of boards of education, as individuals merely, have no more authority in school matters than have citizens of the community. This is a fact frequently overlooked both by members of boards of education and by citizens and teachers. Only in their official capacity as members of a corporate body, duly and properly elected by the citizens of the community, have board members any peculiar authority or jurisdiction, and yet the reason which impels citizens, teachers, and others to take their troubles to individual members of the board is the thought that such individuals, by reason of the fact that they chance to be members of the board of education, somehow have greater power than other individuals in the community.

Boards of education ought always to insist that the right of appeal be permitted any individual who feels that his petition has not received proper or just consideration. Obviously, however, most of the requests which arise in connection with the administering of a city system of schools can and should be handled by the superintendent, his assistants and supervisors, and by the principals and the teachers. Matters of detail should be carried to the board of education only when the individual feels that he has not received justice, and this right should always be insisted upon. But, it should be added, such appeals should be made to the board as an official body and not to the individual members who chance for the moment to constitute the personnel of the board, and it should further be added that the final decision on such matters of appeal should be based not upon personal, political, or religious considerations, but upon the basis of right and justice and fair dealing and upon the final consideration as to what will operate to conserve and promote the educational interests of the children of Memphis.

THE PRACTICE OF THE PRESENT BOARD.

One member of the present board, apropos of this failure to insist that all matters of detail be handled by the superintendent and his corps, remarked that there were three doors to his office—the front door, the rear door, and the side door—and that teachers and citizens used all three to get to him with their troubles. Another member of the present board stated that he estimated that 500 different individuals had been to him at his office with various matters of detail within a short period.

While this willingness to listen to such details speaks well for the sympathetic desire of each member of the board to be of service, yet it is a mistaken attitude which grows out of the failure to recognize, both by members of boards of education and the citizens, that this is not the efficient way of conducting the business of a school department. Tactfully but firmly the members of the board should insist that all these details be presented first of all to the superintendent and his assistants; only in the event that satisfaction has not been received should these matters be permitted to come to the attention of the board of education. There should be no back stairs into the board of education, and no working under the table, but all decisions should be open decisions, openly arrived at. In no other way can the school affairs of the city of Memphis be worked out on the broad basis of principle rather than upon the basis of personal, political, and ulterior considerations.

THE BOARD OF EDUCATION AND DIRECTORS OF CORPORATIONS GOVERNED BY SAME PRINCIPLES.

Probably no clearer or sounder statement of principles defining the functions of a board of education and its proper relation to its technical experts has been formulated than that made by Dr. Franklin Bobbitt, of the University of Chicago, under the caption, General Organization and Management of Public Schools, in the report of the survey of the schools of Denver. Dr. Bobbitt emphasizes the fact that the best principles of business management applicable to a business corporation and the principles that should govern the business management of a school corporation—that is, of an incorporated public school system—are the same. He points out that the functions of a board of education or of school directors is in every way identical with the functions of a board of directors of a business corporation; that the principles of good management in the school world are identical with the principles of good management in the business world.

For purposes of comparison and to impress this analogy, Dr. Bobbitt has set forth in parallel columns the principles of administration which should govern the two types of corporations—business and education—as follows:[1]

Principles of Administration to Govern Corporations.

Manufacturing corporation employing 1,500 people.	*School corporation employing 1,500 people.*
I.	I.
The owners, called stockholders, select a board of directors, whose function is solely representative. Their only duty is to serve the best interests of those whom they represent.	The owners, called citizens, select a board of education, whose function is solely representative. Their only duty is to serve the best interests of those whom they represent.
II.	II.
The stockholders are laymen with respect to the specialized labors to be performed, and the directors are also laymen. Neither stockholders nor directors are familiar with the specialized technique involved in the work. They do know the results that they want, and they know there are men familiar with all the technical processes involved in getting these results. They employ, therefore, a trained and experienced specialist of this character, the strongest that they can find, for their executive. They call him their general manager.	The citizens are laymen with respect to the specialized labors to be performed, and the members of the board of education are also laymen. Neither citizens nor board members are familiar with the specialized technique involved in the work. They do know the results that they want and they know there are men who are familiar with all the technical processes involved in getting these results. They employ, therefore, a trained and experienced specialist of this character, the strongest that they can find, for their executive. They call him their general superintendent.
III.	III.
The board of directors, after careful consideration of conditions and possibilities, and in constant consultation with their executive, make decision and announce to their executive the general policies that they wish adhered to.	The board of education, after careful consideration of conditions and possibilities, and in constant consultation with their executive, make decision and announce to their executive the general policies that they wish adhered to.

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[1] Reprinted from San Francisco Survey Report, Bu. of Ed. Bul., 1917, No. 46, pp. 83–88.

IV.

The executive draws up detailed plans for every department of the work. This covers the general form of organization of the personnel to be employed and the series of processes to be performed in each department.

The plans will show—

The number of assistant managers.
The duties of assistant managers.
Special departmental heads.
Specialists in technical processes.
The foremen to be employed.
The number and types of workmen.
The duties to be assigned to each.
The series of processes to be performed.
Buildings needed, and the building plans demanded by the work and the exact building equipment for the work.
The machinery and other equipment that will exactly serve for the best type of work.

IV.

The executive draws up detailed plans for every department of the work. This covers the general form of organization of the personnel to be employed and the series of processes to be performed in each department.

The plans will show—

The number of assistant superintendents.
The duties of assistant superintendents.
Special departmental heads.
Special supervisors.
The principals to be employed.
The number and types of teachers, engineers, etc.
The duties to be assigned to each.
Courses of study and methods of procedure.
Buildings needed, and the building plans demanded by the work and the exact building equipment for the work.
The textbooks, library, and supplementary books, supplies, shop equipment, furniture, etc., that will exactly serve for the best type of work.

V.

The board of directors will consider the detailed plans presented by their executive to see, so far as they can, whether the plans conform to the general policies adopted. If they do conform, they approve. If they do not conform, they point out the divergencies and ask their executive to make amendments to his plans. This process will continue until the detailed plans conform to general policies.

If during this process there is serious disagreement between the board and executive, the board will call in a competent consulting specialist, whose competence can be approved by their executive, to advise with them.

V.

The board of education will consider the detailed plans presented by their executive to see, so far as they can, whether the plans conform to the general policies adopted. If they do conform, they approve. If they do not conform, they point out the divergencies and ask their executive to make amendments to his plans. This process will continue until the detailed plans conform to general policies.

If during this process there is serious disagreement between board and executive, the board will call in a competent consulting specialist, whose competence can be approved by their executive, to advise with them.

VI.

The general manager will nominate men for his assistants and for his major departmental heads. The board may or may not pass upon these nominations before the men are employed. If the board is assured of the competence of its executive, it knows that he can choose these departmental heads with greater assurance of good judgment than can they. They realize that they can not even pass rationally upon his nominations without the aid of independent competent consulting specialists. They have placed the responsibility upon their general manager for *results.* They will never hamper him by refusing men he wants unless there is incontestable proof of the unfitness of these men. His recommendation of such men is proof of his unfitness. The board will therefore never, or practically never, veto a nomination made by their general manager. Always when they are called upon to exercise such veto they must consider whether they do not need a new general manager.

VI.

The superintendent will nominate men for his assistants and for his major departmental heads. The board will exercise its rights and duties of antecedent inspection of these nominations before appointments are made. This is to make assurance doubly sure. If the board is assured, however, of the competence of its executive, it knows that he can choose these departmental heads with greater assurance of good judgment than can they. They realize that they can not even pass rationally upon his nominations without the aid of independent competent consulting specialists. They have placed the responsibility upon their superintendent for *results.* They will never hamper him by refusing the men he wants unless there is incontestable proof of the unfitness of these men. His recommendations of such men is proof of his unfitness. The board will therefore never, or practically never, veto a nomination made by their superintendent. Always when they are called upon to exercise such veto they must consider whether they do not need a new superintendent.

VII.

The general manager, in consultation with his assistants, department heads, and specialists in processes, employs foremen and workmen.

The board of directors does not pass on these nominations. It is a principle of business management that responsibility is actually placed upon general manager and department heads only in so far as they are given full control over all means to be employed in doing the work. The qualifications of foremen and workmen constitute one of the most important of the means that is to be placed under the full control of the overhead management, as they are commissioned to *get results.* Neither the stockholders nor the board of directors care *who does the work.* Sim-

VII.

The superintendent, in consultation with his assistants, department heads, and special supervisors, nominates principals, teachers, janitors, engineers, physicians, nurses, clerks, etc.

Again to make assurance doubly sure that no mistake is made, the board exercises its antecedent inspectorial powers and approves or disapproves all nominations before appointment is made. The board conforms to the cardinal principle of business management stated opposite by *never vetoing a nomination made by their superintendent unless there is evident and incontestable proof of unfitness on the part of the one nominated, as approved by a competent consulting specialist called in to advise the board*

ply they want it done, and done well. It is not a principle of business management for the board of directors to approve the names of the individual workmen who are to be employed. They do not consider even the possibility of a veto.	*where doubts have arisen as to the competence of their superintendent's ability to nominate.* *At the same session they will consider the advisability of employing a stronger superintendent in whose recommendations they can place confidence.*
VIII.	VIII.
The board of directors places at the disposal of their general manager all funds needed for the conduct of the work as embodied in the budget drawn up by their executive on the basis of the plans of work approved by the board. The expenditure of the itemized funds of the budget is left to the general manager and his assistants. Only in matters of large moment will the board use its privilege of antecedent inspection of budgetary expenditures.	The board of education places at the disposal of their superintendent all funds needed for the conduct of the work as embodied in the budget drawn up by their executive on the basis of the plans of work approved by the board. The expenditure of the itemized funds of the budget is left to the superintendent and his assistants. Only in matters of large moment will the board use its privilege of antecedent inspection of budgetary expenditures.
IX.	IX.
The general manager and his corps will do the work according to the plans and specifications approved by the board. They will operate and control all the means that have been placed at their disposal by the board. The board will not interfere in any of the acts on the part of any members of the factory organization.	The superintendent and his corps will do the work according to the plans and specifications approved by the board. They will operate and control all the means that have been placed at their disposal by the board. The board will not interfere with any of the acts on the part of any members of the school organization.
X.	X.
At stated intervals the board will require of its general manager an account of his stewardship. They will ask for reports on finance, equipment, materials purchased, materials consumed, materials on hand, stock manufactured and sold, stock on hand, cost accounting in the various departments, efficiency reports, etc. The board will examine these reports and compare them year after year; compare them with similar reports of other factories if such are obtainable, etc.	At stated intervals the board of education will require of its superintendent an account of his stewardship. They will ask for reports on finance, equipment, materials purchased, materials consumed, materials on hand, instructional results, attendance, promotions, failures, graduates, cost accounting in the various departments, efficiency reports, etc. The board will examine these reports and compare them year after year; compare them school with school and with corresponding reports from other cities.

If, as judged by these comparisons, the board is satisfied as to results, they will ask that the work continue as it has been going. They will not demand improvements, though they will encourage inventions and discoveries that look to improvement. With things thus going well, they will place all possible power in the hands of their general manager, so that he can improve the work if he can find the means.	If, as judged by these comparisons, the board is satisfied as to results, they will ask that the work continue as it has been going. They will not demand improvements, though they will encourage inventions and discoveries that look to improvement. With things thus going well, they will place all possible power in the hands of their superintendent, so that he can improve the work if he can find the means.
When the board finds shortcomings revealed in the reports they will demand explanations that explain. If satisfactory they ask for recommendations from their general manager as to changes needed in general policy or in the details of policy. They will grant what is needed if it promises remedy; they will back up his labors as fully as they can, and then they will stand aside and let him bear the responsibility for results.	When the board finds shortcomings revealed in the reports they will demand explanations that explain. If satisfactory they ask for recommendations from their superintendent as to changes needed in general policy or in the details of policy. They will grant what is needed if it promises remedy; they will back up his labors as fully as they can, and then they will stand aside and let him bear the responsibility for results.
If he fails again, or if his first failure was serious, after having been given sufficient time and sufficient power for success, the board of directors will let him go; and they will take on a new general manager.	If he fails again, or if his first failure was serious, after having been given sufficient time and sufficient power for success, the board of education will let him go; and they will take on a new superintendent.
Their policy must be to dismiss the weak man and to hold on to the strong man.	Their policy must be to dismiss the weak man and to hold on to the strong man.
XI.	XI.
At stated times, or at any time when conditions appear to demand it, the stockholders will require of their representative board of directors an account of their stewardship.	At stated times, or at any time when conditions appear to demand it, the citizens will require of their representative board of education an account of their stewardship.
They will ask for reports as to the general policies followed, the reason for these policies wherever serious questions may arise, and for all inspectorial reports of all kinds enumerated in the foregoing section.	They will ask for reports as to the general policies followed, the reasons for these policies wherever serious questions may arise, and for all inspectorial reports of the kinds enumerated in the foregoing section.
This practice is not universal yet in the business world—not even common. But it is growing in extent and frequency, and is recognized as a necessary principle of sound management when the management is intended effi-	This practice is not universal yet in community supervision of their boards of school directors. It is not even common. But it is growing in extent and frequency, and is recognized as a necessary principle of sound man-

ciently to serve the interests of the stockholders.

If the stockholders approve, they will sustain their board in all of its acts. They will give it all the support that they can.

If the stockholders disapprove, they will ask for changes in the matters disapproved. The board will make itself cognizant of their wishes as fully as possible, accept all means placed at their disposal for the improvement in the work, and inaugurate the new policies required or make the necessary amendments to the old.

If, after the wishes of the stockholders are made known to the board, the latter continue negligent or derelict, or if their failure to serve the best interests of the stockholders has been serious, they will be promptly relieved of their stewardship and more faithful representatives placed in their stead. The policy of the stockholders must be to relieve only those who prove negligent or unfaithful. They must not dispense with experience of the right sort. But unfaithful directors will be relieved of their responsibilities.

They will hold on to the service of faithful board members to the last extremity.

agement when the management is intended efficiently to serve the interests of the citizens.

If the citizens approve, they will sustain their board in all of its acts. They will give it all the support that they can.

If the citizens disapprove, they will ask for changes in the matters disapproved. The board will make itself cognizant of their wishes as fully as possible, accept all means placed at their disposal for the improvement in the work, and inaugurate the new policies required or make the necessary amendments to the old.

If, after the wishes of the citizens are made known to the board, the latter continue negligent or derelict, or if their failure to serve the best interests of the citizens has been serious, they will promptly be relieved of their stewardship and more faithful representatives placed in their stead. The policy of the citizens must be to relieve only those who prove negligent or unfaithful. They must not dispense with experience of the right sort. But unfaithful directors will be relieved of their responsibilities.

They will hold on to the services of faithful board members to the last extremity.

ATTITUDE OF THE NATIONAL EDUCATION ASSOCIATION.

The same principles are embodied in the "Report of the Committee on the Relation between Boards of Education and Superintendents" adopted by the Department of Superintendence of the National Education Association at its meeting in Kansas City in February and March, 1917.

The following quotations from sections 3, 6, 7, 8 and 9 of this report reinforce Dr. Bobbitt's statement in the report of the Denver survey and bear directly upon the situation in Memphis:

> SECTION 3. The representatives of the people can not perform directly the large duties of carrying on the school system. They must employ technically trained officers to conduct the schools. To these technically trained officers they must look for proper information on which to base their decisions, and they must be prepared to intrust to those officers the powers and responsibilities which attach to the daily conduct of school work.

There is little doubt on the part of all communities that technical training is necessary for the proper conduct of schools, but the exact definition of the sphere within which technical training is needed is not yet worked out in most systems.

A series of concrete examples may therefore be offered as illustrating the type of duty which board members can not properly perform. No board member should teach classes. No board member should act as principal of a school. No board member should negotiate with a publisher of textbooks, nor should pass on the availability of a given book for use in a school. No board member should examine teachers with a view to determining their qualifications for appointment. No board member should plan a school building. No board member should write the course of study. Even where individual cases may arise in which particular members of certain boards would have the ability to perform these tasks, it is better that a well-established division of labor should be recognized. It is the duty of the members of the board to see that technical officers do the work of the system, but the board should not do this work itself. It is a public board, created to see that a certain piece of public work is done, not a group of technical officers created to do the work.

The safe analogy in this case is the analogy of the board of directors in a business corporation. No one can imagine a director of a railroad stopping a train and giving the engineer and the conductor orders about their duties. It ought to be possible to organize and define the technical duties of a school system and to distinguish them from the broad duties which reside in the representatives of the people.

Sec. 6. The technical officers of the school system will be most harmonious in their activities if they are placed under the supervision of a single head or manager who is the executive head of the system. This central supervisor should have the responsibilities and the rights which will make possible a compact organization of the working force in the schools.

Sec. 7. The superintendent must be a man of superior training. He must be prepared to report plans of organization and to make a clear statement of results. He should organize the officers under him in such a way as to secure from them in detail an efficient type of organization, and he should secure from them adequate reports on which to base the statements which he presents to the board.

Sec. 8. In the performance of these functions the superintendent has a right to the initiative in technical matters. Specifically, he should have the sole right to perform the following: (*a*) Recommend all teachers, all officers of supervision, and all janitors and clerks; (*b*) work out the course of study with the cooperation of the other officers of instruction; (*c*) select textbooks with the same cooperation; (*d*) have a determining voice in matters of building and equipment; and (*e*) draw up the annual budget.

These technical recommendations should always be reviewed by the board, and the approval of the board should be a necessary step for final enactment. This will insure the careful preparation of reports and the careful study of results. The superintendent is not to be authorized to conduct the system apart from the board, but he should be insured by definite forms of organization against interference which will defeat his plans and divide his responsibility.

Public business suffers when these technical matters are improperly handled. Let us assume two cases. In the first case the superintendent may be inefficient, and the board or some other active agency may cover over his inefficiency for a time by doing his work for him. The result will be disastrous in the end.

It would be better for public business to bring the inefficiency to the surface as quickly as possible and remove the officer who can not conduct the system properly. In the second case the superintendent is efficient, but is hampered by lack of definition of his functions. The school system will lack in unity of organization and in harmony of internal operation. The system will be defective in so far as it is divided against itself.

Sec. 9. In the relations of the board to all officers of the system it is essential that appointment, reappointment, dismissal, and promotion be removed from the interference of petty influences, and that all such transactions be based on records which are systematically organized and supervised.

There is no clearer indication of the condition of a school system than the attitude of the teachers and other officers to their duties and to the results which they are securing. The school system which is well organized exhibits cooperation on the part of all its officers. The interests of the public suffer beyond measure when appointments are the result of illegitimate personal influences.[1]

CHARTER PROVISIONS RESPECTING THE BOARD.

The charter provisions respecting the board of education in several important particulars are unfortunate. In the first place, the five members of the board, elected for a term of four years, all go out of office at the same time. This means that a new board may come into office knowing nothing about the schools or about the policies inaugurated by former boards and which it may be highly desirable to retain. Under the present arrangement it is too easy for a new board unwittingly and through ignorance of conditions to allow policies to lapse which have been inaugurated only after strenuous endeavor. Furthermore, the school corps is always uncertain as to a continuation of policies already entered upon.

A majority of the members of every new board ought always to comprise those who hold over and whose presence will, in consequence, insure a continuity of policy. The citizens of Memphis, therefore, should take steps to bring the matter to the attention of the legislature, insisting that the city charter of Memphis, under which the schools are conducted, should be amended to provide a board the terms of whose members shall expire at different periods, thus avoiding the present anomalous and demoralizing condition of having the entire board terminate work at the same time. Moreover, the mistake which now obtains of electing a new board 14 months before it takes office should be corrected.

A LARGER BOARD NEEDED.

Furthermore, in making changes in the charter respecting the organization of the board, the survey committee suggests the desirability of increasing the number of members from five, as at present, to seven. It is too easy in a board of five for four to pair off on questions of policy, leaving the fifth holding the balance of power and often in practice determining the policies of the board. It is not so easy with a board of seven members to hold to a uniform alignment of members which permits a single individual to determine the board's action.

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[1] Reprinted from the San Francisco Survey Report, Bu. Ed. Bul., 1917, No. 46, pp. 88, 89.

We would therefore recommend a further charter change, namely, upon the expiration of the term of office of the present board that it be increased to seven members, whose terms of office shall be six years, except that at the first election two members shall be elected for two years, two for four years, and three for six years. Provision should be made for an election every two years after the first election for either two or three members, as the case may be, each, however, to be elected for the full term of six years. By this arrangement the majority of the seven members will always consist of members who have had experience on the board, and at no time will there be normally an influx of new members in sufficient number to control the board. At the same time, an election held as often as once in two years will insure to the people that changes in the desires and wishes of the public will be given opportunity for expression through the changing membership of their board representatives. Such elections, it should be added, for obvious reasons should be held at times other than upon the dates set for the regular municipal elections.

SHOULD THE SCHOOL BOARD BE PAID?

Under the present arrangement the president of the board of education and the chairman of the committee on buildings and grounds receive an annual salary of $600 each, and each of the other members, $480. A recent examination of 46 of the important cities of this country[1] shows that in only 6 cities besides Memphis are boards paid anything for their services. San Francisco pays each of its members $3,000 per year and requires that they give full time to school duties; Milwaukee pay $3 for each meeting, with a limit of $100 a year; Los Angeles pays $10 for each meeting, with a limit of $50 per month; Oakland pays $10 for each meeting, with a limit of $40 per month; Salt Lake City pays $100 per year; and Rochester, N. Y., $1,200 per year.

Clearly the prevailing practice, as well as the weight of public opinion, is overwhelmingly against the paying of even nominal salaries or fees for attending meetings. Undoubtedly this feeling is based upon the belief that the services of a higher type of citizen can ordinarily be secured where no pay is given than obtains if pay is provided. Unfortunately, even the paying of but a nominal fee attracts some who but for it would not be interested in the work of the board. Obviously, people who have no more interest in the schools than this should not be permitted to take office. On the other hand, experience shows that the public-spirited citizen who has the welfare of the schools at heart will not be deterred from serving on this board of education through a failure to pay a salary or fees. We would recommend, therefore, that when the charter is next amended the provision which authorizes the paying of a salary to the members of the school board be abolished.

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[1] In the *Survey of the San Francisco School System*, Bu. of Ed. Bul., 1917, No. 46, p. 80.

THE POWERS OF THE BOARD.

One other charter change should be made, i. e., a change which will empower the board of education to levy taxes for the support of the schools. The board's limitation in this important respect means, of course, that it is not an independent body. It has neither full and final power, nor full and final responsibility, in its control of the schools, for its estimates of the amount needed for the support of the schools is passed in review by the city council, which may or may not grant the amounts called for. Thus the power of the board of education to carry out its plans for the extension and improvement of the schools depends upon the action of an independent body which can have no such intimate knowledge of the schools' needs as has the board of education. The board of education, therefore, is unable to formulate any definite policy with the certainty of being able to put it into operation; and, as a consequence, it can not properly be held completely responsible for any inefficiency of the school system which may develop.

More and more throughout the country it is recognized that the efficient administration of city schools demands that boards of education be given full control over the educational, business, and financial affairs of the school system. That is to say, the tendency in practice is to make city boards of education entirely independent of all other branches of city government; and this should be brought about in Memphis. The board of education of Memphis should be given the power to levy, within statutory limitations, a tax sufficient to maintain its schools on a plane of high efficiency.

The foregoing charter changes, together with the adoption of the method of nominating candidates for the board by a representative body of citizens drawn from the membership of the various civic organizations of the city, as heretofore suggested, will go far, it is confidently believed, toward lifting the schools of Memphis out of politics and placing their administration, instead, on the broad and high plane of impersonal principle. At the same time there will be insured the while a high level of intelligent citizenship in the personnel of the men and women who take places on the board.

2. QUALIFICATIONS OF TEACHERS, THEIR IMPROVEMENT, SUPERVISION, AND DISMISSAL.

SUGGESTIONS MADE BY TEACHERS.

"Improve the teaching corps in every possible way. They are the keystone of the work."

"Require more than a high-school education for teachers.'

"Too many inexperienced teachers, whose educational attainments are below a fair standard, can be found in these schools."

"There should be some professional training required of applicants before they are assigned to duty."

"I don't like the 'aid system.' I for one don't want to have to teach the 'aid' in addition to doing all the other work."

"Supervision that would be genuinely helpful to the weak or inexperienced teacher."

"A live assistant superintendent to have supervision of all elementary schools."

"A grammar grade and primary supervisor—one for each department."

"Primary supervisor reinstated."

"The use of several live-wire supervisors."

"It seems to me that we should be visited at least twice each term by a supervisor."

"A wide-awake, broad-visioned assistant superintendent. Expert supervision for all the grades of the elementary schools. Two supervisors of unquestioned ability."

"A primary supervisor who will make out definite outlines for teachers to follow and visit rooms to see that her outlines are followed, and to give any assistance needed to all teachers in her department."

"Principals whose scholastic and professional qualifications particularly fit them for positions of leadership."

"Make the general monthly meetings of teachers of so vital interest to them in the subjects or classes that they teach that they will look forward to them with enthusiasm rather than as that much time lost."

"More visiting of classroom work by principals. Mine has not been in this year. His knowledge of my work is all second hand."

"Better training of principals as organizers and supervisors."

"Heads of departments in the high schools. Heads to be college graduates."

"Pedagogical training required of all teachers before beginning school service."

"A stronger foundation can be secured by placing experienced teachers in the lower grades. Do away with aids, and place a teacher over each half of these foundation grades."

"Do away with two teachers 'holding forth' in the same room at the same period. Concentration can never be secured when this is the condition."

"Training of inexperienced teachers in some other way than by the classroom teacher."

"Encourage teachers to visit schools, to strengthen themselves by correspondence courses or summer study, and to broaden themselves by travel—extra credit or special recognition to be given for professional growth."

"In view of the fact that the very large majority of the colored teachers have had little or no specific professional training, and that it would be impossible for the board to dispense with their services—to say nothing of the charge of injustice they might make—the most effective step to secure coordination in the work and to give incentive to the teachers to improve themselves—and thereby the standard—is the immediate appointment of a competent supervisor for the colored schools who will operate immediately with and under the superintendent."

"Evolve a plan for eliminating the hopelessly poor teacher or principal from the system, and of improving all others."

"Better training of principals as organizers and supervisors."

"Better trained principals and teachers."

"Competent heads of such departments as language, science, mathematics, history, and civics, so that there will be a progressive line of training throughout grades and high school."

"Raise the standard of scholarship for teachers and select teachers because of their value as teachers. Elect a larger number of male teachers. Give heads of departments a voice in the selection of teachers for their respective departments."

"Each teacher a college or university graduate."

"Principals and teachers elected for a term of three to five years."

"Better organiaztion of departments, with a recognized head for each."

"Insist upon more thorough and more expert supervision."

"The elimination of poor teachers after a sufficient trial is recommended."

"A two-year training course for teachers after finishing high school."

When the schools closed in June, 1919, the rolls showed the following distribution of teachers:

TABLE 6.—*Number of teachers (regular teachers, aids, special teachers), by schools, on the roll at the close of the year 1918–19.*

Schools.	Number of regular teachers.	Number of aids.	Number of special teachers.	Total number.
WHITE SCHOOLS.				
Bruce	20	5	2	27
Central High School	45	......	8	53
Church Home	2	......	......	2
Commings	18	3	......	21
Gordon	13	2	......	15
Guthrie	15	4	......	19
A. B. Hill	22	5	......	27
Idlewild	17	4	......	21
Lauderdale	23	2	......	25
Leath	19	2	1	22
Leath Orphanage	1	1	......	2
Lenox	13	2	......	15
Madison Heights	13	1	......	14
Maury	18	2	......	20
Merrill	18	1	......	19
Open Air	1	1	......	2
Peabody	17	5	......	22
Pope	18	3	......	21
Riverside	21	3	......	24
Rozelle	19	1	......	20
Smith	13	1	......	14
Snowden	12	1	......	13
St. Paul	9	3	......	12
Vocational High School	18	......	......	18
Jefferson Street	2	......	......	2
Total	387	52	11	450
COLORED SCHOOLS.				
Caldwell	6	......	......	6
Carnes	13	3	......	16
Charles	3	......	......	3
Grant	21	3	......	24
Greenwood	11	2	......	13
Klondike	11	1	......	12
Kortrecht High School	19	......	......	19
Kortrecht Grammar School	18	1	......	19
La Rose	23	3	......	26
Porter	12	1	......	13
Virginia Avenue	15	4	......	19
Total	153	18	......	170
Grand total	539	70	11	620

Of a total of 656 teachers, principals, and supervisors in the department to whom the questionnaire asking for information concerning training, experience, etc., was sent, a total of 638 responded—399 elementary white, 157 elementary colored, 69 secondary white, and 13 secondary colored.

PREPARATORY TRAINING OF WHITE TEACHERS.

Of the 399 white teachers and principals in the elementary schools responding, 128, when elected to the department, had received less than the equivalent of a four-year high-school course; 191 had received the equivalent of a full four-year high-school course, but nothing more; 65 had received some college training in addition to a high-school course or its equivalent, while but 15 had both a high-school course and a full college course at institutions of recognized standing.

As to the professional training for teaching, of the 399, 194 came into the Memphis schools without any normal-school work or work of a professional character at all; 161 had spent less than two years at a normal school, many of these having taken no more than one or two summer sessions, while 44 had the equivalent of a full two-year normal-school course.

It is interesting to note that nearly one-half of those responding, 189 to be exact, were graduates of the Memphis schools. Of these 189 local graduates, 106 entered the department without professional training of any kind; 80 had had some normal-school work, usually one or two summer sessions, while 3 reported that they had taken a two-year course at Peabody College for the Training of Teachers.

Of the teachers of the white high schools, 69 in number, 14 reported that upon entering the department they had received nothing more than high-school training; 35, in addition to high-school work, had received some college training, usually at summer sessions, while 20 stated that they were graduates of reputable colleges and universities at the time they were elected to positions in the schools.

SUMMARY OF THE TRAINING OF WHITE TEACHERS.

From the foregoing it is clear that the academic preparation of approximately 80 per cent of the elementary white teachers when they entered the schools of Memphis was limited to a four-year high-school course or less, and that only 20 per cent had received any academic training beyond that of high-school grade. Furthermore, nearly 50 per cent of the elementary teachers began their work without any professional training of any kind. Of the remaining 50 per cent, the professional training was limited to one or two sessions of summer normals, while only about 10 per cent brought to their work at its beginning the training given by a two-year course at a reputable normal school.

Moreover, 206 teachers, a little more than half of those reporting, state that they had had no teaching experience whatever before entering the school system of Memphis, while 43 others had not taught more than two years.

As to the white high schools the facts show that 20 per cent of the members of the teaching corps at the time of their selection had received only a high-school training; 50 per cent had done some college work, for the most part at summer sessions; 30 per cent only were graduates of colleges of standing; while a third of the entire number had no teaching experience.

The facts, therefore, show that only about one-third of the teachers of the white high schools of Memphis, when they were elected, measured up fully to the standard of preparation which good high schools of the country are insisting upon, namely, graduation from a college or university of recognized standing. It is not surprising, in view of this situation, that the Central High School should have failed to be accredited by the Southern Commission of Colleges and Universities. As rapidly as possible these teachers now in the high schools who are there owing to laxity of superintendents and boards or because of personal relationships, and whose work is weak, should be eliminated and their places filled with persons better qualified to do the things which need to be done.

PREPARATORY TRAINING OF COLORED TEACHERS.

Similarly, the situation in the colored schools in respect to preliminary training is as follows:

Of a total of 157 teachers and principals of the colored elementary schools who reported, 54 had received nothing more than the three years' course at the local Kortrecht High School; 72 had taken the work at Le Moyne Institute, the equivalent of a high-school course, with a little time devoted to professional training; 6 came in from the Howe Institute; while 25 had the training given by other institutions for colored students. Of this latter group, 6 had done work at Fisk University and 3 at Tuskegee.

Of the 13 teachers in the colored high school (Kortrecht) who reported, 5 had taken a high-school course only; 3 had done some college work in addition; while 5 were graduates of colleges in good standing.

Of the 54 elementary teachers who had graduated from the Kortrecht High School (the local school), 45 had received no professional training for the work of teaching; 2 had done work in the Shelby County normal sessions; 3 had taken work in addition at the Le Moyne Institute; while 4 had attended one or more summer sessions at a State normal, one of these having attended a full year.

That is to say, nearly half of the colored teachers in the elementary schools came in from the Le Moyne Institute; about 35 per cent from the Kortrecht High School; and the remainder from other institutions doing about the same grade of work, except that 8 or 10 teachers have received excellent college or university training. Eighty per cent of these teachers had no professional training at all, while the remaining 20 per cent, for the most part, had taken only one or two terms at a summer normal. Fifty-one had no teaching experience when they entered, and of 34 others their experience amounted to two years or less.

THE CAUSES FOR LOW STANDARDS.

The standards of academic and professional training and of teaching experience required of candidates for teaching positions in the Memphis school system as shown by the foregoing facts are altogether too low. No one should ever be permitted to teach in an elementary school who has not had a full four-year high-school course and a two-year normal training course in addition, or their equivalents, as a necessary minimum of preparation. Furthermore, every teacher in high-school grades should have a full four-year course at a standard college or university, together with special professional training. These are the standards of academic and professional equipment which the citizens of Memphis should require of the teachers of their children. Indeed, in general, the quality of the instruction will fall below the standard which the taxpayers of the city have a right to demand to the degree that the teachers fail to measure up to this minimum of preliminary training.

Several reasons can be pointed out which account, in part at least, for the low standards of preparation required by Memphis boards.

The salaries paid in the past have been too low to attract to the Memphis schools teachers of the qualifications desired or to hold them in the schools once they are obtained. During the last two years in particular salaries elsewhere, and in other lines of activity, have advanced so much more rapidly than they have in Memphis that teachers have resigned in great numbers. Boards have been obliged to accept almost anyone who came along, irrespective of qualifications, to avoid closing down classes and requiring the children to be kept at home. The abnormal conditions in this respect under which the city has been working during the two years this country has been at war is indicated by the fact that 132 new teachers and aids have been required since 1917 to take care of the needs of the white elementary schools: 20 in the white high schools: and 25 in the colored schools. Altogether, a total of 177 teachers and aids have been received into the corps during this period. Some of this number is due to the growth of the school population of the city, but most of them came in to fill vacancies created by resignations.

Moreover, western Tennessee has not had until within the past seven years a normal school supported at State expense for the preparation and training of elementary-school teachers. In consequence, there has been a dearth of normal trained teachers in Memphis. The situation in this particular, however, ought not much longer to exist, for, with a State normal school located as it is in Memphis, an adequate supply of teachers who can meet the standard heretofore suggested should soon be available.

The State normal schools of Tennessee have not yet reached the standard in their preparation of teachers which the Memphis board should require of those to whom it offers places, for these schools at present permit students to matriculate for a four-year course who have had but two years of high-school work. However, a plan has been adopted whereby in 1920 entrance requirements will be raised to a requirement of three high-school years, and in 1921 a full four-year high-school preparation will be demanded as a foundation for a two-year professional training course for those wishing to enter the elementary schools as teachers, though a four-year course will be provided for those wishing to continue.

THE "AID-TEACHER" SYSTEM.

Another reason which accounts for the preponderance of teachers of too meager academic and professional training in the Memphis schools is to be found in the system of "aid teachers" which the Memphis system has employed for many years. By this plan graduates of the local high schools upon passing an examination, which most of them are able to do, are assigned to teachers in the grades who have large and crowded classes. These "aids" are expected to help the teacher in whatever she wishes done. They are on full time, are paid $50 per month the first year and $55 per month the second year, after which period they are eligible for appointment as regular teachers, when vacancies arise, without further examination. Many of the teachers now serving in the elementary grades came in under this plan. The aids receive no special instruction in their work, nor are they given any special supervision. They are expected to acquire proficiency and skill in teaching through observing the teacher to whom they are assigned and through following the suggestions which she may give from time to time.

In practice this arrangement works out badly in every way. The "aid" is not shifted from one teacher to another frequently enough to get a corrective on the poor teaching which many of them see. In fact, many are never shifted at all, but remain for the two-year probationary period with the teacher to which they were first assigned. No opportunity is afforded for the discussion of the principles involved in good teaching; so whatever practices the "aid" acquires must be gained largely by imitation. The plan deters the young people from going off to a normal school and making real preparation for their work, for obviously many young people would rather begin serving as "aids" receiving $50 per month for two years than to go to the expense of attending a normal school for the same period. Again, it means that the regular classroom teacher must teach the aid as well as the children of her class. Furthermore, the presence of the aid is doubtless taken as an excuse for the assignment to the class teacher, in instances, of altogether more children than she should have. Neither is the plan fair to the children, for they are entitled at all times to the best and most experienced instructors which it is possible to secure for them. It ought not to be necessary for them to be taught at any time by young and inexperienced aids.

Without doubt the meagerness of the salaries paid in the Memphis schools in the past, the slowness with which the department has met the enormous rise in living cost, the failure of the State normal schools of Tennessee more quickly to raise their admission standards, and hence to increase the qualifications of their graduates, and the "aid-teacher" system which has prevailed in Memphis for many years go far toward explaining the fact that at the present time the system has in it so many people so poorly qualified by education, training, and experience for their work.

NO PLAN FOR ELIMINATING THE POOR TEACHER.

One other reason in accounting for this situation should not be overlooked, and that is that no plan apparently has ever been systematically employed by superintendents or by boards in Memphis for eliminating the teacher who in her work has not measured up to proper standards of efficiency and who has not given evidence of professional growth. It is impossible ever to devise preliminary tests of efficiency which will unfailingly prevent some from getting into a department who ought not to be there. However careful a superintendent and a board may be in appointing teachers, there will always be found some who fail to do creditable work. One of the important functions of a normal school is to find out which of its students are lacking in the temperamental and intellectual qualities which are necessary to success in teaching. It is doubly necessary that a system, such as the Memphis system, which draws its teachers very largely from sources other than normal schools, should have an efficient plan for trying out all who enter and of eliminating those from the department who for one reason or another are not successful. Such a plan, of course, must avoid working any seeming injustice to a teacher, and it must not be operated in an arbitrary and unsympathetic manner.

One such plan which has worked very successfully is this: At the close of each term the principals and supervisors hand to the superintendent a frank statement regarding the teachers in their respective corps, grading each as "excellent," "satisfactory," or "unsatisfactory." Those teachers who are ranked as "unsatisfactory" by the principal and supervisors, if the judgment is concurred in by the superintendent, are thereupon transferred to other schools, in other situations, and even perhaps to other grades than the ones to which the teachers were assigned. But such transfers are made, it should be pointed out, only after each teacher has been told very frankly by principal and superintendent just what the criticism is. Each is thereby given another chance, with as nearly a complete change of conditions provided as it is possible to secure. Very often the reports coming in at the end of the next term are favorable rather than otherwise, but if they again confirm the first reports it is understood that the superintendent will fail to recommend for reelection the teachers in question. By some such plan as this the danger of snap judgment is avoided, the teachers are given every chance to make good, and the children are protected against the retention of teachers who have mistaken their calling and who should be dealing with typewriters and merchandise rather than with children.

Only by the twofold process of exercising discriminating judgment in the appointing of teachers and in systematically employing some such plan as the foregoing in eliminating those who are inefficient can a teaching corps be kept up to that high standard of excellence which the citizens should properly demand. Neither is this a difficult matter when a school system is taken out of politics and away from personal influence and operated on the high plane of principle. Teachers rightly hesitate to accept dismissal at the hands of superintendents and boards who are known or suspected to be working under the table but, except in rare cases, they do not hesitate to quit after they have been given a fair and impartial and systematic try out and after they have been told wherein they fall short and have been given ample opportunity to correct their mistakes and to overcome their weaknesses.

THE LE MOYNE NORMAL INSTITUTE FOR COLORED TEACHERS.

The foregoing study shows that about one-half of the teachers of the colored schools of Memphis have come in from the Le Moyne Normal Institute situated in Memphis, and that about one-third came from the Kortrecht colored high school, also of Memphis.

The Le Moyne Normal Institute was organized in 1861, under the auspices of the American Missionary Society, as a vocational and industrial school for negro youths. The school comprises a faculty of about 19 teachers made up chiefly of white men and women of college training obtained in the North and East, though some of the teachers are colored people of good education. The school attempts to carry its students over the ground usually covered by good four-year high schools, and it should be said that it gave evidence of doing the work it has undertaken in a very creditable way. To meet the demand of students entering the school for a training which will prepare for teaching, a normal course was instituted. This course, however, parallels the other courses, all of which terminate with the twelfth year, that is with the completion of what corresponds to the regular four-year high-school period. This normal course is differentiated from the college preparatory course of the school only very slightly during the first two years, but with the third and fourth years a greater divergence between the two is to be noted. Some attention is given to the study of psychology, pedagogy, school management, school hygiene, and methods of teaching. Along with this work, a practice school has been organized which gives opportunity whereby the students can get some practical experience in actual teaching under trained supervision.

Inasmuch as this course is given while the pupil is pursuing his regular high-school studies, training for teaching is gained only at the expense of time which should be devoted to high-school work. The professional work, therefore, under present conditions, can not be considered as of adequate character.

In looking for a source of colored teachers for the schools of Memphis, in addition to the State Agricultural and Industrial Normal School for Negroes at Nashville, it would seem to be a feasible project for the board of education to enter into an arrangement with the management of the Le Moyne Institute whereby the former would raise their qualifications for colored teachers to a point such that a two-year professional course of training, in addition to a four-year high-school course, would be demanded. If this were done, doubtless the directors of the Le Moyne Institute would be willing to add a two-year normal course beyond the four-year high-school course which they are now giving and to eliminate from the high-school period the work of professional character which they are now trying to do. With such an arrangement the Le Moyne Institute would be in a position to do work in the training of teachers which would be worth while. On the other hand, Memphis would thereby have the opportunity of securing teachers who would be vastly better trained for teaching than those now in service.

In line with this plan the Kortrecht High School should be shifted from its present unsuitable location, should be provided with a proper site and with adequate buildings and equipment, and a full four-year course arranged for. It should further be required that all the graduates of this school who desire to teach in the Memphis schools should take this two-year training course at the Le Moyne Institute or at some institution which would do the same grade of work. An arrangement of this character, it is believed, would work to the mutual advantage of the Le Moyne Normal Institute and of the city of Memphis.

It would be well to investigate the possibilities of the Howe Institute, also in Memphis, in this connection. The reports coming to the staff regarding the work of this institution raise a doubt, however, as to its availability for this purpose.

THE NEED FOR SUPERVISION.

It has been suggested in preceding paragraphs that to keep the teaching corps at a high plane of efficiency a twofold process is necessary—the insistence upon high admission standards and a method of eliminating the poor teacher. There is a third important consideration in accomplishing this result which no progressive superintendent and board will ever overlook, and that is devising means and methods for improving the efficiency of the corps while the members are still in the service.

The first and most obvious method is that of providing an adequate supervisorial staff. Teachers must have supervision, if good teamwork is to be secured. In the end, the efficiency of a system of schools depends upon collective effort. Confusion, loss of time and effort, and general wastage on all sides can be avoided only by the careful coordination of the work of every individual. This coordination of plan and of effort can be secured in no other way than through the personal supervision of a leader or leaders who endeavor to unify the work of all in order that definite aims may be reached and authorized plans carried into execution.

This responsibility rests directly upon the shoulders of the superintendent and his corps of assistants and supervisors expressly selected for their ability as leaders and for their knowledge of details. In most cities of the size of Memphis there is a supervisor of primary grades; a supervisor of intermediate grades; a supervisor of the industrial work of the system throughout; a supervisor of home economics throughout; a supervisor of music throughout; a supervisor of physical activities throughout; sometimes, although not always, a supervisor of penmanship throughout; one for drawing and art throughout; and then heads of high-school departments, who are responsible, in the high-school corps, for the planning and teaching of their respective subjects and whose ability and responsibility are recognized in the salary schedule and whose jurisdiction, in places, extends downward to embrace the work in their respective fields in the junior high schools.

These supervisors, acting with the superintendent as their leader and with and through the principals in the several schools, constitute the supervisory body whose duty it is to lay out plans in discussion with the teachers, and through cooperating with the latter gradually bring about a well-knit and thoroughly coordinated school system which shall increasingly reach higher standards of efficiency in every department of its activity.

In respect to such a supervisional staff Memphis is unfortunately placed, for the only supervision which the teachers are now getting, aside from that afforded by the principals, is given by a supervisor and one assistant of music in the elementary schools; by a supervisor of handwork for children in the primary grades whose attention has been diverted to Red Cross sewing activities; and by a supervisor of physical activities. Until a year ago there was a supervisor of primary teachers, but the present board abolished the office and transferred the supervisor to the principalship of one of the grade schools. The high schools have not yet been organized on the departmental basis, though the staff was informed that this step was contemplated.

SUPERVISION OF THE COLORED SCHOOLS.

As matters now stand the colored schools are without any special supervision of any kind except for that rendered in music by one person. The superintendent of schools meets the principals and the teachers of the colored schools for one session per month, at which matters of general interest rather than of specific detail are presented by the superintendent or by some one who has been invited to address the meeting. No opportunity offers at these meetings for a discussion of matters pertaining to the internal work of the schools, although it is planned that the monthly meeting shall break up into groups for such discussion and for some special study under the direction of the principals of the respective schools.

There is a definite need for a well-equipped supervisor of the colored schools who shall work under the immediate direction of the superintendent and who shall give his full time to the problems of these schools. As time goes by and the work develops, there should be added supervisors of special subjects as well, for if supervision is essential for successful work in white schools, there is all the more reason why it should be provided for colored schools, if the money expended upon Negro education is to bring the fullest returns.

It is a debatable question in the minds of the survey staff whether such a supervisor should be a colored man or whether he should be a white man who takes a sympathetic interest in the problems of the Negro race. The staff has no hesitation in saying that theoretically it believes one of the colored race should be chosen, but, practically, it must admit that in instances where this plan has been adopted it has not worked satisfactorily, because of the failure of the colored people themselves to stand back of the supervisor in a unified way. Be this as it may, there is urgent need for a supervisor of colored schools and for a supervisorial staff as well. The staff therefore recommends the appointment of such a supervisor when the board is convinced that a well-equipped person is available, and that, as opportunity arises, his work be supplemented by a supervisor of primary grades and also by a supervisor of intermediate grades, who shall be skilled in the work of their respective fields.

OTHER WAYS OF IMPROVING THE SCHOOL CORPS.

Such a staff of supervisors, working under the general direction of a leader of initiative and inspiration, will be able so to guide and help the inexperienced and weak teachers that the necessity for dismissal in many instances will be avoided. It is, however, possible to go further in providing opportunity whereby teachers may improve themselves while they are still in the service. By lecturers brought in from time to time, by the organization of groups for the intensive study of school problems, by establishing clubs for the reading and discussion of educational topics, by arranging that teachers may visit others in the corps and in other cities for the purpose of observing their work, by exchanging teachers with school departments in other cities in other parts of the country, by granting a sabbatical leave on half or full pay for travel and study, by encouraging attendance at summer normals and colleges, and by giving recognition to individuals who are striving to increase their efficiency, by promotions in the corps and through increased remuneration, progressive educators in many cities are accomplishing much in improving their teaching force.

The reports of the teachers of Memphis show that many have made commendable efforts, even handicapped as they have been by small salaries and by no plan for the recognition of better service, to improve themselves. For example, of the 399 white elementary teachers reporting, 224 stated that since entering the department they had taken courses in summer sessions at various normal schools and colleges of the country. Of the remaining 175 who had not taken such courses, about two-thirds have recently entered the department and have not yet had time to take such work. There are some 60 elementary teachers, however, who have been in the department more than two years, some, indeed, for a number of years, and yet who have not availed themselves of this opportunity for increasing their efficiency.

The situation in this respect in the white high schools is as follows:

Of the 69 teachers and principals reporting, 41 have taken summer-school work, while 29 have not. Of the 29, about 15 have been elected to their positions within two years.

In the colored schools, of 170 teachers reporting, 119 state that they have taken work of this character.

This is a creditable showing and indicates that the teaching corps of the Memphis schools is awake to the importance of taking advantage of every opportunity for professional growth within reach, although, doubtless, the credit is due in instances, at least, to the fact that former boards required all teachers not needed in the vacation schools of Memphis to attend summer normals.

3. THE SALARIES OF SCHOOL EMPLOYEES.

SUGGESTIONS MADE BY TEACHERS.

"A substantial increase in teachers' salaries, so that they may not be hampered, but may work happily and contentedly and thus get better results and also have time and means for self-improvement. To keep out of a rut it is necessary to go away and study during the summer; then you come back to your class feeling refreshed and ready to work with renewed energy. But you can't always go on borrowed money."

"Last, but not least, a teacher should be paid enough to keep her from worrying constantly over how she can manage her financial affairs. She gives her life to the work and has a right to expect enough to be well dressed, well fed, have a few pleasures, and save something."

"The most serious problem at present is the very low salaries paid to teachers and principals, for unless there is an increase worth while there will be many of our teachers go into the commercial world this fall, and the greatest question is, Where can we find others to take their places?"

"Salaries are so low here, as elsewhere, that no self-respecting, educated woman can live on them comfortably. Good teachers are leaving the system, because of poor pay, and very few are taking up the profession of teaching. Result, poor teachers."

"Some recognition of merit in compensation. At present all salaries are increased on term of service only, with the result that the competent and incompetent are remunerated alike."

"Board of education to pay adequate salaries and then make the requirements of education, temperament, and personality such as will obtain real teachers."

"When we are happy in our work we can accomplish more."

"Incentive to grow while in service.

"Pay teachers more salary and require of them more professional work."

"Teacher's ability should be recognized more than her experience."

"Increase of salary to enable teachers to take normal-school courses that are worth while."

"The teachers are overworked and underpaid. I do not believe it is possible to do justice to the school, the children, the subjects to be taught, or to myself when I have to teach eight classes per day. I am supposed to have seven preparations, but every minute of the day is occupied in teaching classes of anywhere from 16 to 60 pupils. Also the equipment is very inadequate for the work to be done."

"Pay better salaries and so free the teachers from financial worries. They will do better work."

"Let training and degree of success in teaching be the basis for salary increase. Pretty difficult to arrive at latter here. Have taught five years here and can count the official visits on five fingers."

"Give a sabbatical year to teachers."

"An increase in salaries and more male teachers. Ten thousand dollars of this increase can now be saved by clearing Central High of a lot of 'dead wood.'"

"Better salaries, so we can have better teachers. Some of our most efficient teachers have left the service because it was almost impossible to live on the salary received."

"A better salary for the teacher, so that all his time and energy may be devoted to school work and preparation of school work and duties, and that he may be able to spend his vacations in doing special work in summer normals."

"Better salaries for Negro teachers so they can give all their time to school work, can go to different parts of the country to attend summer schools and institutes, and also that their living conditions may be improved."

"Owing to the 'high cost of living' I recommend that the standard of salary be so raised as to enable the teacher to do her school work without worrying about how she is going to secure the necessities of life."

"Better salaries. A salary that would permit the teachers to attend summer schools; subscribe for and take educational journals, etc., and support themselves; not live in debt and work all summer."

THE PRESENT SCHEDULE.

Not until last September (1918) was the board of education of Memphis able to make any response to the tremendous rise in living cost by increasing the salaries of school employees. For many years prior to 1917 the maximum tax limit for school purposes as fixed by the charter under which the schools operate was 25 cents on every $100 of assessed property valuation. In 1917 this limit was raised to 40 cents, 3 cents of this amount, however, was set aside, it was stipulated, for buildings and equipment. By act of the last legislature a mandatory vote for school purposes of 50 cents was authorized. Although the act was not to become operative until July 1, 1919, nevertheless, in response to urgent demands by the teachers the board, on the strength of this increase in rate, advanced the salary of all of the regular teachers in the white schools $10 per month, dating this advance back to the beginning of the fall term, September, 1918. As it now stands, then, the salary schedule of the department is as follows:

TABLE 7.—*Salary schedule of school employees, Memphis, 1919.*[1]

Officers and teachers.	Per year.	
	Minimum.	Maximum.
Superintendent		$5,000
Secretary of the board		2,500
Assistant secretary		1,020
SUPERVISORS.		
Music		1,680
Art		1,680
Assistant supervisor of music		1,500
Physical director		1,500
Supervisor music (colored schools)		960
PRINCIPALS.		
Elementary:		
All white schools, irrespective of size		2,000
All colored schools, irrespective of size		1,500
High:		
Central High		2,700
Vocational High		2,400
Kortrecht High (colored)		1,620
TEACHERS.		
Elementary, white:		
First grade	$720	1,140
Second to seventh grades	720	1,020
Eighth grade	720	1,080
Elementary, colored:		
First grade	504	840
Second to seventh grade	504	720
Eighth grade	504	840
High school, white: All teachers	1,140	1,440
High school, colored: All teachers	720	1,044
AIDS TO TEACHERS.		
Elementary, white:		
First year of service		600
Second year of service		660
Elementary, colored:		
First year of service		420
Second year of service		480
Substitute teachers		[2] 3
CUSTODIANS AND JANITORS.[3]		
White:		
Bruce School		$1,500
Cummings		1,260
Gordon		1,020
Guthrie ($15 rent)		1,020
A. B. Hill		1,200
Idlewild		1,440
Lauderdale		1,260
Leath ($15 rent)		960
Leath No. 2		1,320
Lenox		960
Madison Heights		960
Maury		1,080
Merrill		1,080
Open Air		720
Peabody		1,140
Pope		1,140
Riverside		1,275
Rozelle		1,500
Smith		1,020
Snowden		1,020
St. Paul		1,020
Vocational High		1,320
Colored:		
Caldwell		360
Carnes		450
Grant		630
Greenwood		480
Klondike		540
Kortrecht Grammar		450
Kortrecht High		450
La Rose		585
Porter		450
Virginia Avenue		450
Attendance officer (white)		1,020
Attendance officer (colored)		480
Superintendent repairs		1,680
Superintendent's secretary		1,320
Stenographer (superintendent's secretary)		1,020
Storekeeper (white man)		900

[1] Salaries are paid in 12 monthly payments. For teachers they automatically increase $60 per year until the maximum is reached.

[2] Per day when teaching.

[3] Custodians and janitors receive their rent free as they live in houses on the school ground. They also receive free fuel and light. On the other hand they have to provide out of their salaries for whatever help they need in caring for their buildings.

MEMPHIS HAS MADE SMALLEST RESPONSE TO INCREASED LIVING COSTS.

Until the salaries of white teachers of elementary and high-school grade were recently raised, their salary schedule had remained for many years at $600 to $900 for elementary teachers and $1,020 to $1,320 for high-school teachers. The flat advance of $120 per year which the raise in salary brought meant an increase of about 16 per cent for the teachers of elementary grade and about 10 per cent for teachers of high-school grade, or an average advance of 13 or 14 per cent, colored teachers not included. It will be of interest to compare this increase with that made in other cities of the country.

A study which the Bureau of Education has just made of 149 cities of the country shows the following facts regarding the advances which have been made in teachers' salaries since 1914. Three report no advance; 22 report an average advance of 15 per cent or less; 58 report an average advance ranging from 16 to 25 per cent; 14, with most of them near the upper limit, report an average advance of from 26 to 30 per cent; 41, of 31 to 50 per cent; and 11, of more than 50 per cent. Memphis is seen, therefore, to fall into that group of cities which has made the smallest response to increased living cost, when the percentage of increase is considered.

HOW TEACHERS' SALARIES IN MEMPHIS COMPARE WITH THOSE IN OTHER CITIES.

In the questionnaire sent out to the teachers by the survey commission, each teacher was asked to state her total salary for the year 1918–19. In order to determine where Memphis stood with respect to the salaries which she paid her teachers, a comparison was made with the salaries paid elementary and high-school teachers in 392 cities of 100,000 population or more in all parts of the country.[1]

MEMPHIS COMPARED WITH CITIES OF THE SAME SIZE.

Table 8 shows that the largest group of teachers in Memphis (34.2 per cent) receive a higher salary ($1,000 to $1,199) than the largest group of teachers (32.2 per cent) in the 392 cities ($800 to $999). It should be borne in mind, however, that 105 of the 149 Memphis teachers who fall into the salary group of $1,000 to $1,199 received only $1,020. No teacher in the elementary schools of Memphis received a higher salary than $1,140, whereas 20.6 per cent of the teachers in cities of the same size as Memphis received between $1,200 and $2,000.

In other words, Memphis pays her largest group of elementary teachers a higher salary than other cities pay the largest group of their teachers, but she stops at that point. Her maximum for elementary white teachers falls $1,000 short of the maximum in the 392 cities.

Among the negro teachers in Memphis, 121 teachers out of 137, or 88 per cent, receive only the minimum salary paid white teachers, or less. The maximum salary for the Negro teachers was $960. Three teachers in replies to the questionnaire stated that they received that salary.

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[1] The data in regard to the salary schedules of teachers in 392 cities were compiled by the National Education Association and are about to be published under the title "Teachers' Salaries and the Cost of Living." In the table showing this comparison the salaries of white teachers and negro teachers are given separately for Memphis, but the comparison with other cities is made on the basis of the salaries of both groups combined, since the salary schedule for the 392 cities includes both white and negro teachers.

TABLE 8.—*Elementary teachers' salaries for 1918-19—Memphis compared with other cities of 100,000 population or more.*

Salary groups.	392 cities.		Memphis.				
	Number of teachers.	Per cent of total.	White teachers.	Per cent of total.	Negro teachers.	White and Negro.	Per cent of total.
$200-$399	35	3.0			11	11	2.5
$400-$599	370	2.6			38	38	8.7
$600-$799	3,204	22.3	56	18.8	72	128	29.4
$800-$999	4,627	32.2	94	31.4	16	110	25.2
$1,000-$1,199	3,157	22.0	149	49.8		149	34.2
$1,200-$1,399	2,330	16.2					
$1,400-$1,599	564	3.9					
$1,600-$1,799	61	.4					
$1,800-$1,999	18	.1					
$2,000-$2,199	1						
Total	14,367	100.0	299	100.0	137	436	100.0

HIGH-SCHOOL TEACHERS' SALARIES IN MEMPHIS AND OTHER CITIES OF THE SAME SIZE.

The highest salary which Memphis pays her high-school teachers is $1,440, whereas in 392 cities in all parts of the country 41.5 per cent of the teachers receive from $1,600 up to $2,500. In other words, her maximum falls $1,060 short of the maximum paid in the group of 392 cities. Only 7 teachers (out of 3,094) in other parts of the country received a lower minimum salary than that of Memphis. In Memphis 16.5 per cent of the teachers received less than $1,000, while in other parts of the country only 5.8 per cent received less than $1,000. (See Table 9.)

TABLE 9.—*High-school teachers' salaries for 1918-19—Memphis compared with 392 cities of 100,000 population or more.*

Salary groups.	392 cities.		Memphis.				
	Number of teachers.	Per cent of total.	White teachers.	Per cent.	Negro teachers.[1]	White and Negro.	Per cent of total.
$200-$399	2						
$400-$599	5	0.1					
$600-$799	43	1.4			2	2	3.3
$800-$999	133	4.3	[2] 3	5.9	5	8	13.2
$1,000-$1,199	650	21.0	6	11.8	3	9	14.5
$1,200-$1,399	481	15.6	16	31.3		16	26.3
$1,400-$1,599	500	16.2	26	51.0		26	42.7
$1,600-$1,799	452	14.6					
$1,800-$1,999	605	19.6					
$2,000-$2,199	151	4.9					
$2,200-$2,399	37	1.2					
$2,400-$2,499	35	1.2					
Total	3,094	100	51	100	10	61	100

[1] Three of the teachers listed in the high-school group (Negro) taught seventh and eighth grades. In two cases they received lower salaries than some high-school teachers, in one case a higher salary than a high-school teacher.

[2] Three teachers gave a salary less than that which is now stated as the minimum for high-school teachers.

SALARIES OF MEMPHIS TEACHERS COMPARED WITH THOSE OF OTHER CITIES DISTRIBUTED ACCORDING TO GEOGRAPHICAL LOCATION.

In order to determine how much Memphis paid her teachers as compared with other cities in the South and in other parts of the country, a comparison was made with different geographical groups in which the 392 cities were distributed, as follows:[1]

Group A. Eastern, including Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.

Group B. Southern, including Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, West Virginia.

Group C. Great Lakes, including Illinois, Indiana, Michigan, Ohio, Wisconsin.

Group D. Great Plains, including Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, South Dakota.

Group E. Western, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

A comparison of Memphis with these different geographical groups shows that Memphis upon the whole pays higher salaries to her elementary-school teachers than other cities in the South; 34.2 per cent of her elementary white teachers fall into the group receiving $1,000 to $1,199, whereas only 4.1 per cent of the teachers in the southern group (B) fall into that group.

Again, 95.1 per cent of the teachers in the southern group receive less than $1,000, whereas in Memphis 65.8 per cent receive less than $1,000. (See Table 9.) But if Memphis is compared with cities in the West and Middle West, Groups D and E, it is found that in Group D only 54.9 per cent and in Group E only 34.3 per cent of the elementary teachers receive less than $1,000. In Memphis the maximum salary is $1,140, whereas in Group D 21.7 per cent and in Group E 34.9 per cent of the elementary-school teachers are receiving salaries ranging from $1,200 to $2,000.

HIGH-SCHOOL TEACHERS' SALARIES.

When the salaries of Memphis high-school teachers are compared with those of other cities in the South, it is found that 1 per cent of the teachers in the southern group get less than those in the minimum salary group of Memphis, but 10.2 per cent of the teachers in the southern group receive from $1,600 to $2,400, whereas no high-school teacher in Memphis receives more than $1,440. In Group D 31.1 per cent and in Group E 43.4 per cent of the high-school teachers receive from $1,600 to $2,500 as against the Memphis maximum of $1,440. (See Table 9.)

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[1] See report of National Education Association, Teachers' Salaries and the Cost of Living.

TABLE 10.—*Elementary teachers' salaries for 1918–19 in 392 cities, compared with those of Memphis.*

(Distributed according to geographical grouping and salaries received.)

Salary groups.	Group A.		Group B.		Group C.		Group D.		Group E.		Total.		Memphis.				
	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	White teachers.	Per cent.	Negro teachers.	White and Negro.	Per cent of total.
$200–$399	78	0.7	184	2.5	13	0.3	14	0.2	2	....	291	0.9	....	....	11	11	2.5
$400–$599	993	9.5	1,003	13.9	499	9.6	303	5.0	25	0.5	2,823	8.1	....	....	38	38	8.7
$600–$799	3,462	33.2	3,071	42.5	2,043	39.4	1,109	18.2	552	10.2	10,387	29.9	56	18.8	72	128	29.4
$800–$999	3,748	36.0	2,619	36.2	1,592	30.7	1,924	31.5	1,274	23.6	11,157	32.1	94	31.4	16	110	25.2
$1,000–$1,199	1,768	17.0	295	4.1	758	14.6	1,429	23.4	1,660	30.8	6,110	17.6	149	49.8	....	149	34.2
$1,200–$1,399	292	2.9	45	.6	221	4.3	1,224	20.0	1,344	24.9	3,144	9.1	....	....	....	....	....
$1,400–$1,599	45	.4	12	.2	33	.6	60	1.0	515	9.6	665	1.9	....	....	....	....	....
$1,600–$1,799	28	.3	1	....	15	.3	26	.4	19	.4	89	.3	....	....	....	....	....
$1,800–$1,999	4	....	3	....	5	.1	17	.3	1	....	30	.1	....	....	....	....	....
$2,000–$2,199	....	....	1	....	3	.1	1	....	....	....	5	....	....	....	....	....	....
$2,200–$2,399	....	....	1	....	1	....	....	....	....	....	2	....	....	....	....	....	....
Total	10,418	100.0	7,235	100.0	5,183	100.0	6,107	100.0	5,392	100.0	34,703	100.0	299	100.0	137	436	100.0

TABLE 11.—*High-school teachers' salaries for 1918–19 in 393 cities, compared with those of Memphis.*

Salary groups.	Group A.		Group B.		Group C.		Group D.		Group E.		Total.		Memphis.				
	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	Number of teachers.	Per cent of total.	White teachers.	Per cent.	Negro teachers.	White and Negro.	Per cent of total.
$200–$399	1	....	1	....	....	....	2	0.1	....	....	4	....	....	....	....	....	....
$400–$599	11	0.5	13	1.0	2	0.1	3	.2	....	....	29	0.4	....	....	....	....	....
$600–$799	117	4.8	102	7.5	46	3.0	23	1.4	....	....	288	3.3	....	....	2	2	3.3
$800–$999	528	21.8	259	19.0	446	28.8	298	18.0	78	4.5	1,611	18.5	3	5.9	5	8	13.2
$1,000–$1,199	637	26.3	539	39.5	347	22.4	339	20.5	137	8.0	1,998	22.9	6	11.8	3	9	14.5
$1,200–$1,399	513	21.2	208	15.3	276	17.8	279	16.8	283	16.4	1,557	17.9	16	31.3	....	16	26.3
$1,400–$1,599	284	11.7	102	7.5	188	12.1	198	11.9	478	27.7	1,250	14.4	26	51.0	....	26	42.7
$1,600–$1,799	139	5.7	49	3.6	100	6.4	163	9.8	447	25.9	898	10.2	....	....	....	....	....
$1,800–$1,999	93	3.8	77	5.6	98	6.3	247	14.9	246	14.3	761	8.7	....	....	....	....	....
$2,000–$2,399	93	3.8	14	1.0	43	2.8	74	4.5	56	3.2	278	3.2	....	....	....	....	....
$2,400–$2,499	4	.1	....	....	1	.3	32	1.9	....	....	37	.4	....	....	....	....	....
$2,500–$2,999	7	.3	....	....	4	....	....	....	....	....	11	.1	....	....	....	....	....
$3,000 and over	1	....	....	....	1	....	....	....	....	....	2	....	....	....	....	....	....
Total	2,428	100.0	1,364	100.0	1,552	100.0	1,658	100.0	1,725	100.0	8,724	100.0	51	100.0	10	61	100.0

SUMMARY.

COMPARISON WITH OTHER CITIES OF THE SAME SIZE.

Memphis pays her largest group of elementary teachers (34.2 per cent) a higher salary than other cities pay their largest group (32.2 per cent), but she stops at that point. Her maximum salary for elementary teachers is $1,140, whereas 29.6 per cent of the teachers in cities of the same size received between $1,200 and $2,000. Her maximum salary for Negro teachers is $960. Three teachers receive this salary, but 88 per cent of the Negro teachers receive the minimum paid white teachers or less.

The minimum salary for high-school teachers in Memphis is about the same as in other cities, but her maximum, $1,440, falls short by $1,060 of the maximum in other cities of the same size; 41.5 per cent of the teachers in these cities receive from $1,600 to $2,500.

COMPARISON WITH CITIES IN DIFFERENT SECTIONS OF THE COUNTRY.

Memphis pays higher salaries to her elementary teachers than other cities in the South; that is, 34.2 per cent of her elementary teachers fall into the group receiving $1,000 to $1,199, whereas only 4.1 per cent of the teachers in the South fall into that salary group. But when Memphis is compared with the West and Middle West, it is found that Memphis' maximum is only $1,140, while in the Middle West 21.7 per cent of the teachers, and in the West 34.9 per cent of the teachers are receiving salaries ranging from $1,200 to $2,000. The maximum salaries for high-school teachers in the West and Middle West exceed Memphis' maximum by $200 to $1,000, and 31.1 per cent of the teachers in the Middle West and 43.4 per cent of the teachers in the West are receiving salaries exceeding the Memphis maximum.

In other words, if Memphis compares herself with the South, she can make a fairly good showing on her salary schedule. But Memphis does not compare herself only with the South in matters of trade and commerce and business enterprise; she invites camparison in these respects with any other city in the country. But when she compares herself with cities in other parts of the country with respect to the salaries she pays her teachers, it is found that her salary falls far short of the standard set by cities of the same size in other sections of the country. Moreover, when it is remembered that during the past four years the cost of living has more than doubled, while teachers' salaries all over the country have increased less than 20 per cent, it is easy to realize what Memphis' failure to come up even to that inadequate standard must mean to the teachers of Memphis. The people and board of education of Memphis should also remember that nowhere in America is the pay of teachers anything like so liberal as it should be, when the difficulty of their work, the good of the schools, and the public welfare are considered.

THE IMPERMANENCE OF THE TEACHING STAFF.

The fact of the matter is that the teacher-salary schedule of Memphis is far too low to attract to the profession the type of young men and women which the profession needs and to hold them permanently in the service. Studies made in different cities of the tenure of teachers show that the extent of the period of service of the average of teachers is three years. This impermanency of the teaching corps is a very disconcerting and alarming matter, for with so many teachers coming and going, the superintendent and his supervisors are greatly handicapped in working out a unified, consistent, and well-coordinated school policy. Furthermore, it is clear that teachers who enter the department to leave it at the first opportunity are not going to give to their work that unremitting application necessary to secure the best results. Even under the most favorable conditions, there will always be many transients among teachers, but good instructional opportunity for the children demands that serious effort be made to stabilize the teaching force. Offering adequate salaries is one important means of accomplishing this object.

This instability in the teaching corps is in striking contrast to the situation which prevailed among the elementary schools of Prussia prior to the outbreak of the war. In these schools, which were remarkable for producing the kind of efficiency which Germany demanded, recent studies show that 45 per cent of the male teachers of the cities had been in service for more than 20 years, and only 6.69 per cent had had less than 6 years' service, while 77.67 per cent had served more than 10 years.[1] Conditions of salary, of tenure, of retirement provisions were such that teaching in Germany had become a profession wherein those who enter do so intending to remain in the work for life. The German elementary-school teacher does not receive a large salary, but it is sufficient to provide him with a comfortable home, an education for his children, a margin of savings, and a pension upon retirement which will keep him from want for the rest of his days. If teaching is ever to become a profession in America, it will be only after some such provisions are made to secure greater permanency in our teaching force.

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[1] Alexander: The Prussian Elementary Schools. Macmillan, 1898, p. 197.

CONDITIONS ESSENTIAL TO SUCCESSFUL TEACHING.

Good business practice outside of the teaching profession is recognizing this need, for it is learning that success within the field of business enterprise is largely dependent upon offering to employees inducements such that long tenure and the taking of a vital interest in the business will inevitably ensue. If it be true that a happy, contented, and care-free employee is requisite for success within the domain of business, how much more must a serene mind be essential to work of a superior quality in the business of teaching. Good teaching, perhaps more than good work in any other activity, is dependent upon a buoyant, hopeful, joyous mind; for good teaching is a matter primarily of the spirit. A state of mind is contagious. Happy teachers mean happy children, and unhappiness in a teacher inevitably begets unhappiness among children. Men and women, as well as children, can never do their best work when they are dispirited, discouraged, and depressed. True, some teachers are able, however adverse the conditions, to live in the realm of the free spirit, but with most the response to external conditions is powerful and immediate. In the interest of the children, therefore, school officials should give much practical consideration to the ways and means of improving the material conditions which press in upon the life of their teachers.

The qualifications required of teachers are constantly rising. There was a time when young people who could do nothing else or who wished to gain a few dollars to enable them to attend a business college or a medical or law school turned to teaching with no intention of remaining in the work longer than a year or two at most; but those days have gone by never to return. It is now generally recognized that qualities of character and intelligence, as well as careful training, are essential; and, more and more, officials who are responsible to the people for the administration of their schools are raising the required standard of qualifications. The teacher should always be, and in most cases is, the equal of the men and women who enter other branches of professional life; and yet she, all too frequently, receives a recompense which is less than the wages of those who are doing the most menial and unskilled labor of the community.

Again, as standards of teacher qualifications are raised, an increasingly larger technical preparation is demanded. The best teachers in the grades are well grounded in the chief departments of human knowledge; they know what the big things are which are being accomplished in the broad fields of the world's work; they have developed well-defined standards of taste and appreciation in music, art, and literature, and know the best contributions which these arts have produced; they keep abreast of political thought and discussion in their own community and in the larger community which lies beyond; and, moreover, within the field of education they are students of the general and special method of education and keep in touch with the progress of pedagogical investigation and discussion, working over continually into schoolroom practice the established results of such experiment and observation. Years of preparation are required, in the high school, in the college, or university, and in the professional course, followed up by vacations spent in summer schools, by Saturdays and holidays spent at lectures and teachers' meetings, by evenings occupied in intensive and detailed preparation for the classroom work of the following day. Besides time, effort, and strength of body and of purpose, the expenditure of considerable money is necessary in securing such preparation. It is no act of justice to those who have gone through with such a laborious and expensive course of training as is now required that they should, in the end, find themselves limited to a salary so small as to seem pitiful.

Furthermore, a teacher should purchase many books, she should attend conventions and conferences, and she should travel. Her growth can not be maintained unless she reads daily; unless she comes in personal contact with people outside her own community, who afford a corrective against the provincialism of localities; and unless she broadens her horizon through travel. But these things can not be accomplished without money. A teacher should be so situated financially that she can spend a fifth of her salary, at least, in such effort at self-improvement and in the acquisition of self-culture.

In short, a salary should be paid sufficient to enable teachers to live in reasonable comfort and still have left a margin adequate to permit them to take advantage of the various opportunities for personal growth offered by their own and other communities; and with a margin, too, generous enough to make it possible for them to command that respect and recognition in the community to which the dignity and worth of their profession entitle them. In addition, a teacher who has proved her worth in actual practice should be placed completely at ease with respect to tenure. Provisions should also be made, again with the welfare of the children in mind, for a retirement fund which will enable an allowance to be made to the one who has faithfully served her community during the active and virile period of her life span, and which will make it easy for her to be withdrawn from the classroom when her usefulness has ended.

Memphis, then, it must be pointed out, has still much to accomplish in improving the material conditions of her teachers in respect to salaries before she can command the uninterrupted service of teachers of the highest training and ability; before she can expect to hold them up to the highest standards of teaching skill; and before she can properly insist upon evidence of a greater progress in self-culture than is now to be observed in the rank and file of the school corps.

An analysis of the problem of the individual teacher from the standpoint of the foregoing considerations shows that a compensation which can be considered adequate must cover the following items, at least: (1) Clothing and subsistence; (2) medical and dental care; (3) life insurance; (4) family support or support of dependents; (5) social and professional growth, such as books, magazines, music, art, the theater, membership in teachers' associations, and attendance upon summer schools; (6) incidentals; (7) establishing a reserve. At least $300 per year should be saved and safely invested. At prevailing prices it is difficult to see how these items can be covered, even with severe economy, under a minimum salary of $1,000 per year.

To find out what the facts are in Memphis in respect to this matter, the teachers were asked to report the amounts they were able to save out of their present salaries. The following table shows the results:

TABLE 12.—*Amounts saved by Memphis teachers, year 1918–19.*

Teachers.[1]	Number of teachers who saved—					Total number reporting.
	Nothing.	$1 to $100	$101 to $200.	$201 to $300.	$301 or more.	
White:						
Elementary teachers	277	51	44	18	9	399
High-school teachers	44	7	4	7	7	69
Colored, all grades	142	17	9	0	2	170
Total	463	75	57	25	18	638

[1] The principals are included.

Many people have the idea that because most of the teachers are unmarried women they do not have others depending upon them for support, and that in consequence they can spend their salaries upon themselves. This belief is not correct, as the following facts show:

TABLE 13.—*Teachers supporting dependents.*

	Having no dependents.	Having one or more dependents.	Total number reporting.
White:			
Elementary teachers	197	202	399
High-school teachers	24	45	69
Colored teachers of all grades	27	143	170
Total	248	390	638

A PROPOSED SALARY SCHEDULE FOR THE TEACHERS OF MEMPHIS.

To meet this situation adequately the following salary schedule is proposed as a goal which Memphis should earnestly seek to reach at the earliest possible moment:

TABLE 14.—*Proposed salaries.*

Teachers.	Length of time of appointment.	Salary schedule for each group.				Yearly salary increase	Year in which group maximum can be reached.
		Elementary.		High school.			
		Minimum.	Maximum.	Minimum.	Maximum.		
1. One-year teachers (probationary)	1	$1,000	$1,150	$1,200	$1,350	$75	Third.
2. Three-year teachers	3	1,225	1,375	1,425	1,575	75	Third.
3. Five-year teachers	5	1,450	1,650	1,650	1,850	50	Fifth.
4. Permanent teachers	([1])	1,700	2,000	1,900	2,200	50	Seventh.

[1] Until retired.

When the maximum of each group is reached, the following alternative courses should be open to the board of education:

1. Termination of the contract (permissible each year in group No. 1).
2. Reappointment annually at the group maximum.
3. Promotion to the next higher group.

The promotion from group to group beyond that of the three-year teachers should be granted only to those who have shown special merit and have given evidence of valuable professional study. To satisfy the latter condition, the board might require the candidate for promotion to spend a year in study at some recognized college or university, or a year in teaching in some good school system in another part of the country, or perhaps a year in study and travel combined. In this connection a system of exchanging teachers might easily be established between Memphis and other cities to their mutual advantage.

This suggested schedule is designed to correct the weakness of the Memphis schedule in another particular, namely, in not providing any means for recognizing merit. Everyone knows that some teachers in a department are worth very much more than others, and they know, too, that this worth is not dependent upon length of service. Furthermore, a schedule such as that of Memphis offers no inducement for special industry or for effort for self-improvement, for the teacher who does just enough to escape dismissal gets quite as much as does the teacher whose heart is in her work. Again, there is a strong tendency among teachers, as among all workers on salary, when middle age is reached and the maximum salary is attained, to permit the desire for a comfortable, easy-going life berth to outweigh the ambition for a steadily increasing personal efficiency which can be gotten only at the expense of hard work and many denials of personal pleasure. A salary schedule having a maximum which is reached early in the service, and beyond which no individual can advance, as does the Memphis schedule, operates powerfully to inhibit growth.

A schedule such as the one prepared would have teachers who enter the first group looked upon as being on a probationary status, subject to reelection each year for three years. Those who are rated as "successful" at the end of this period may be promoted to the group of three-year teachers, where they will advance automatically by $75 increments for a period of three years. Those who are rated as "unsatisfactory" can in turn be continued from year to year at the maximum of the probationary group or dropped from the corps. When a teacher has reached the maximum of the "three-year" group, the board can then promote her to the "five-year" group if she has met the requirements demanded for promotion, reelect her from year to year at the maximum she has reached or dismiss her. And so when the maximum of the "five-year " group is reached, the teacher who has won promotion by her success in the classroom and by her efforts at self-improvement can be made a member of the "permanent teacher" group where she will remain until she retires. If, in the judgment of the officials, a teacher has not merited this promotion, she can be retained for a time at the maximum salary granted to the group she is in or be dropped. In this manner an adjustment can be worked out between the teachers' proper desire for security of tenure and the board's proper desire to eliminate the teachers who do not continue to grow in efficiency. At the same time the teacher knows that efforts at self-improvement will find tangible reward in terms of salary increase.

THE SALARY OF THE COLORED TEACHERS.

The survey staff would hold it to be fundamental, in arranging a schedule of salaries for colored teachers, that account be taken of the standard of qualifications and of success which are required for admission to the corps and for retention therein. If in matters of education, professional training, and experience colored teachers are held to the same requirements as are the white teachers, then the staff can see no justifiable reason for paying them at a less rate than obtains for white teachers. At present it is true that in Memphis the standard of qualifications for colored teachers is lower than that for white teachers, which fact, of course, justifies a difference in the rate paid, just as the difference in the standard set for elementary white teachers and for high-school white teachers justifies a difference in their schedules. As rapidly as well-trained teachers are available, however, the standards demanded of colored as well as of white teachers should be raised. When this is accomplished, and the teacher source is placed on as high a level of training as that of white teachers, the staff would recommend that the foregoing suggested salary schedule be made operative for both and that both be made eligible to the same promotions, each within his own field of activity.

SALARY OF THE SUPERINTENDENT OF SCHOOLS.

For many years the salary of the superintendent of schools was $2,500. In 1907 it was raised to an amount not to exceed $3,600, where it remained until 1915, when the legislature passed an act amending the Memphis charter and raising the salary to an amount not to exceed $5,000. The term for which the superintendent has been elected has for many years been two years.

The survey staff would urge that this charter limitation of salary be removed, thereby permitting future boards to go into the field anywhere and pay whatever is necessary to get the man who, in their judgment, is the one best equipped and qualified to do the work that the boards may wish done. It is also recommended that the practice governing tenure be so changed as to permit a board to elect a superintendent for any term it deems wise, not to exceed five years.

The Memphis school system has now reached a size and complexity which demands the highest skill in leadership it is possible to procure with the means available. This is particularly true if a serious effort be made to carry into effect the program which this survey report outlines. Obviously, if the salary which boards can pay remains at the present figure, the range of possible selection will be a limited one. Were boards, on the other hand, able to offer a salary of $8,000 or $9,000, coupled with a reasonable tenure, long enough to enable a superintendent to show what he could do, the range of available material from which a selection could be made would be greatly extended. The choice in such event might still fall upon a local man, but only after he had come into competition, in training and qualifications, with men of proved capacity in the field at large.

The Memphis schools have undoubtedly suffered through too frequent change in the office of superintendent. In the 12 years which have elapsed since Gen. Gordon's administration there have been seven different superintendents, no one of whom has remained long enough to enable him to establish an educational policy. There ought always to be an opportunity for a board to check up the work of its chief executive officer and determine whether or not the interests of the schools require a change. On the other hand, two years is too short a time in which to enable a superintendent coming in new to the system and to its problems to master the details and to demonstrate his ability to meet them with efficiency. A five-year period, it is suggested, would be a much fairer time in which to make the accounting which boards ought always to make at stated intervals.

The table which follows gives the salaries paid superintendents in 25 important cities of the country:

Superintendent's salary in Memphis compared with those in other cities.

Detroit	$12,000	Milwaukee	$7,500
Cleveland	12,000	Denver	7,000
Chicago	10,000	Buffalo	7,000
New York	10,000	Rochester	6,500
Cincinnati	10,000	Washington, D. C	6,000
Jersey City	9,000	Minneapolis	6,000
Philadelphia	9,000	New Orleans	5,400
Pittsburgh	9,000	Louisville	5,000
Los Angeles	8,000	Baltimore	5,000
St. Louis	8,000	St. Paul	5,000
Seattle	7,500	Providence	5,000
Newark	7,500	Memphis	5,000
Oakland	7,500	Average salary	7,600

SALARIES OF PRINCIPALS.

The arrangement in the elementary schools whereby all principals are on a flat salary rate is an admirable one. This is a much better plan than the one usually employed of making the salary of a given principal depend on the number of children attending his school, for it at once eliminates many points of friction and enables the superintendent more readily and easily to shift the attendance lines between schools as crowded classes require. The salaries paid—$2,000 for the white schools, $1,500 for the colored schools—should be raised to correspond more closely to the rise in living cost.

This latter suggestion applies with even greater force to the principals of the high schools. The training and general qualifications required of successful principals of large high schools is such as rightly to demand a better remuneration than the high-school principals of Memphis are now receiving. The office of principal of our large city high schools has come to be one of the most responsible as well as difficult positions in the entire range of educational work. Salaries should be paid which will attract to the office men of the highest qualities and of the best training and to hold them in their places for a period of years, for it is quite as demoralizing to the work of a high school to have frequent changes in the head of the school as it is to a system to be changing superintendents constantly.

It is quite as important, if not more so, to stabilize the executive and administrative corps, assuming that the personnel is efficient, as it is to stabilize the teaching staff. The payment of satisfactory salaries is, of course, one way of doing this.

THE JANITOR SITUATION.

There is much criticism of the janitor service in the schools of Memphis by both the school corps and school patrons. The contention is made that the buildings are not kept clean and in proper sanitary condition, and there is a disposition to hold the janitors of the department wholly responsible for this situation. The survey staff is convinced that, with certain notable exceptions, the school buildings of the city are not kept in the condition with respect to neatness that they should be in. Nevertheless, upon investigation it finds that the janitors themselves, except possibly in individual cases, are not to blame for the situation which has arisen. It is due, rather, the survey staff believes, to the method which has been in operation in the school department for a number of years whereby the board of education pays the janitor of the building a lump sum from which he is expected to provide whatever assistance he needs in keeping the buildings in the condition demanded.

The janitors contend, and there is much evidence to show that their contention is correct that, owing to the rise in cost of labor as well as in living costs, it is impossible for them to support their families out of the lump sum which the board is paying them and still have an adequate margin left over with which to employ sufficient help. It is a fact that the wage scale which was authorized by boards of education prior to September, 1914, was, on that date, subjected to a flat cut of 25 per cent. Not until September, 1917, were the janitors allowed any increase, at which time a restoration of about 10 per cent was made to the janitors of the white schools but no restoration to the janitors of the Negro schools. This restoration of 10 per cent brought the salaries up to the schedule which they are now receiving and which is to be found on a preceding page of this report.

The amounts which the janitors of the larger schools are paying for additional help in cleaning the buildings ranges from $30 to $55 per month. These amounts, as urged by the janitors, being all that they can possibly afford to pay from their lump-sum amounts and still have enough left for themselves and their families. Although the board of education provides free of charge buildings in which the janitors live and also provides the fuel and light, nevertheless it is obvious, when the lump-sum amounts apportioned to each are reduced by an amount ranging from $30 to $50, that an unsatisfactory situation is likely to arise for two reasons, in the first place, for the large buildings $30 to $55 per month is not sufficient to obtain the additional help which is needed, and, in the second place, the amount left for the janitor himself after assistance has been employed is not adequate.

A PLAN FOR JANITOR SERVICE.

The present arrangement, therefore, is bad, not only for the reasons already mentioned but for the further fact that it subjects the janitors always to the suspicion that they are not sufficiently liberal in providing helpers. As long as this plan prevails, the janitors of the schools, no matter how conscientious they are—and there are undoubtedly a number who are taking a deep personal interest in their work—are always likely to be subjected to criticism which may or may not be justified. It would seem a much better arrangement for the board of education to work out an adequate wage scale based upon the amount of floor space which the several janitors are required to care for, modified by special conditions which obtain in the several schools, pay the janitor a sufficient sum for the responsibility of supervising his helpers, and then employ directly whatever assistance the board deems is necessary in order to keep the buildings in the condition that the board demands. At the same time the board should hold the principal of a given school responsible for his building and should accept his recommendation in respect to the efficiency or lack of efficiency of both the janitors and the helpers which the board employs. Under this arrangement any standard of cleanliness and of efficiency in the upkeep of the buildings can be reached which the community demands and which the board requires without securing this at the expense of the janitors themselves, who are under the present wage schedule undoubtedly working on too close a margin.

THE BOSTON PLAN OF FIXING JANITORS' SALARIES.[1]

For 15 years or more Boston has had a plan for determining the schedule of salaries for janitors which has worked satisfactorily and which has been adopted widely. According to this plan compensation is allowed on five items: (1) Cleaning; (2) heating, ventilating, and superintendence; (3) washing of windows; (4) care of yards and sidewalks; (5) care of lawns.

In fixing compensation for cleaning, the cubic contents of a building are computed in accordance with the rule of the National Association of School Accounting and Business Officials and indorsed by the American Institute of Architects. Compensation, based on this item, is reckoned at the rate of 4 mills for the first 10,000 cubic feet; 3.8 mills for the second 10,000 cubic feet; 3.6 mills for the third 10,000 cubic feet, and so on as per schedule up to the total cubic contents of the building.

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[1] A Schedule of Compensation for Janitor Service of School Buildings, Boston, School Document No. 10, 1918.

In fixing compensation for the second item, "heating, ventilation, and superintendence," the cubic contents of the building are also used as a basis, except that buildings are classified into three groups, depending upon the type of heating system used, some requiring more attention and skill than others. For "class A" buildings the compensation runs 5 mills for the first 10,000 cubic feet, 4.7 mills for the next 10,000 cubic feet, and so on as with the item of "cleaning." The heating, ventilation, and superintendence of "class B" and "class C" buildings are compensated for at a lesser rate.

Compensation for "washing of windows," the third item, shall be on the basis of the total area of the sashes and at the rate of 5.5 mills per square foot for one washing on both sides. Additional washing per year when ordered by the board shall be at the same rate, which also applies to all windows, transoms, doors, and doors in permanent bookcases in the building.

The fourth item, "care of yards and sidewalks," shall be on the basis of their total area and at the rate of 3 mills per square foot. So also with the item "care of lawns," except that the rate allowed is 3.3 mills per square foot.

The annual salary of each janitor shall be arrived at by applying the rates of compensation for cleaning, heating, ventilation, and superintendence to the cubic contents of the buildings, and by applying the rates of compensation for washing of windows and the care of yards, sidewalks, and lawns to the several areas. The total of the amounts shall constitute the annual compensation for janitor service.

This schedule does not include compensation for evening schools, school centers, vacation schools, playgrounds, and lectures or concerts, for each of which additional compensation is allowed.

A schedule of salaries worked out on some such basis as the foregoing would be much more just than the haphazard and unscientific system which Memphis now employs. Such an analysis of the duties of janitors, furthermore, would make it easy for the board to discriminate wisely in securing the helpers needed in the larger buildings.

EXTRA DUTIES OF JANITORS.

With a better organization in many of the schools and with a more thoughtful cooperation with the janitors on the part of principals and teachers better results than now obtain can be secured, for, according to the present custom in many of the schools, janitors are called upon to perform services and duties which do not properly fall within their field of activity. Some principals ask the janitors to be responsible for the conduct of the children before the teachers arrive in the morning and after they leave in the evening. In order that the janitors may supervise the children properly it is often necessary for them to drop their work, thereby causing delay in doing what is necessary in connection with the care of the buildings. This is especially objectionable in the winter months, when the attention of the janitor must be given to the heating of the building, for to be called away from the furnace at times when he is trying to get up sufficient heat to make the building comfortable is very disconcerting. This source of friction between the janitors and the school authorities, which is one of the causes for the apparent inefficiency of the work, could be greatly lessened if the principals were to organize the activities of their schools by having teachers in rotation on duty at an early hour and requiring them to remain in the afternoon as long as there are children in the building. By such an arrangement as this the janitors would be relieved to a large extent of disciplinary matters, about which they ought not to have anything to do anyway, and be left free to do the work that must be done promptly if the building is to be kept in a sanitary condition.

Not only in matters of this kind, but in many others, principals and teachers by a little forethought can lighten the duties of the janitors very greatly. For example, in some of the schools during inclement weather boys are permitted to march into the schools at the close of intermissions without cleaning the mud off their shoes; in consequence bushels of dirt are carried into the halls and classrooms, which have to be swept up and carried out as soon as the school session closes. By graveling the yards, by requiring the city to put in sidewalk approaches to all schools, and by expecting the principals to insist upon clean shoes before the children are permitted to enter the building, the problem of the janitors in this respect will be very greatly lightened. Cooperation can also be worked out in the matter of keeping the yards, as well as the rooms and halls, clean of refuse.

The survey staff would suggest, therefore, that the present situation in respect to janitor service can be greatly helped by a readjustment of the wage schedule, by abolishing the lump-sum payment to janitors out of which helpers are to be provided, by relieving the janitors of responsibilities for the discipline and control of children which fall within the province of the duties of the school corps, and by so organizing the several schools that refuse and dirt will be taken care of to a reasonable degree. (For a further discussion of the problem of the care of buildings see Chapters III and X.)

A "SCHOOL" FOR JANITORS.

School janitors, like most people who work for the public, are rarely appreciated at their true worth. Few persons have any idea of the qualifications which ought to be required for the office. In fact, the impression is very general that "most anyone will do for school janitor."

Very little has been written which will aid the janitors in their work, and there is scarcely a school or college in the United States that offers the kind of training they need. Their relation to other departments of the school organization has never been satisfactorily determined; and their qualifications have never been properly standardized, so that a school board might know what constitutes a good school janitor or that janitors can know wherein they fall short of what is expected of them.

In a few cities in the West, notably Portland, Oreg., Berkeley and Oakland, Calif., "schools" for janitors have been conducted which the janitors are obliged to attend.

These "schools" comprise a series of lectures given by experts called in for the purpose, each lecture being followed by a free discussion.

The following list of lectures, as given in Oakland, Calif., in 1917, indicates the nature as well as the value of such a "school":[1]

1. What the board of education expects of the custodian.
2. What the superintendent expects of the custodian.
3. What the business manager expects of the custodian.
4. Cooperation between the principal and the custodian.
5. The custodian's relation to the pupils.
6. The custodian's relation to recreation and social center activities.
7. The custodian's part in the wider use of the school plant.
8. Some conditions in the school environment which may affect the child's health.
9. The use and care of the drinking fountains.
10. How to treat emergencies at school.
11. Fire prevention and fire control.
12. Heating and ventilation.
13. The operation of oil burners. (Oakland schools burn oil for fuel.)
14. The use and care of steam-heating apparatus.
15. Automatic temperature regulation.
16. The operation and care of school electrical equipment.
17. The oiling of floors.
18. By way of review. "Am I a custodian, or only a janitor?"

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[1] Board of Education (Oakland, Calif.) Bulletin No. 8 (June, 1917), The School Custodian, His Duties and Responsibilities.

4. PUPIL PROMOTIONS AND FAILURES.

SUGGESTIONS MADE BY TEACHERS.

"The plan of promotion is not good. All depends upon the grade made in the final examination."

"Less stress on examinations."

"The process of memory is used rather than the processes of understanding, judging, and reasoning."

"No more putting up children who fail to pass examinations into the class with those who worked hard and passed. It lowers the standard and lessens the incentive of pupils."

"A better system of grading and promoting, so that the brighter ones may go ahead and not run around in circles, mentally and maddeningly waiting for the others."

"Allowed to stay 'failed' and not 'squeezed' into the next grade."

"That children who fail be required to go over the work, and not promoted when they can not make a passing grade."

"A fixed, definite method of promoting pupils and raising the standard of scholarship."

"Do not try to teach them so much textbook facts but more research work."

"More weak children should be allowed to fail."

"Outlines are used which are long and clumsy. They suggest and even give answers, instead of leading the child to search for the truth."

"Make them more self-reliant by requiring them or leading them to find out for themselves."

"That children be trained from lower grades up to do some of the work and not to depend on the teacher for everything."

"Less written and more oral work throughout the grades."

"I think that there is too much work attempted in the schools of Memphis and too many subjects. I think the per cent of failures shows this."

"Teachers here do too much of the work and the children do too little; one, for instance, writes questions on board and writes answers on the same day. Where does the child gain by that? We have too many 'copyists.'"

"A change in the method of promoting pupils."

"A definite program for the year's work at the beginning of the year, so that teachers and pupils may know the extent of each term, whether there will be a summer school or not, what holidays will be given, etc. Especially do we of the high school need to know that when we begin a recitation it will not be interrupted."

"A definite assignment of work at least a term in advance. (We do not know until the day the term opens what subjects or grades we will teach.)"

"Have teachers reelected before term ends, that programs may be made for next fall."

"A definitely planned-for and limited auditorium period which does not disrupt the day's program."

"Closer union between grammar and high school."

"Opportunity for high-school teachers to visit other schools, especially the grades 7 and 8."

"High-school teacher on committee for making course of study for the eighth grade. Of course, a junior high would help materially."

"Closer articulation between grammar and high school."

"Junior high schools to cover this wide breach between our grammar and high school."

THE PROMOTION PLAN.

For a number of years the promotion of pupils above the third grade in the Memphis schools has been determined by a formal examination held during the final week of the school term under the direction of the superintendent, who prepares, or has prepared for him, the questions which are asked. If the pupils fail in passing the required standard in a given subject in their examination, then their standing as shown by the teacher's rating based on the record of daily work and upon written tests given at various times during the term is averaged with the mark gained in the final examination. If this results in raising the pupil to the required level, then he is promoted; otherwise he fails.

A summary of the results obtained under the operation of the plan in respect to the promotion and failure of pupils in the elementary division for the term closing February 21, 1919, follows:

TABLE 15.—*Failures in the grades, distributed by grades, February, 1919.*

Grades.	Net enrollment.	Withdrawals.	Number remaining to end of term.	Failed.	
				Number.	Per cent.
WHITE SCHOOLS.					
First grade	2,142	207	1,935	329	17
Second grade	1,487	145	1,342	164	12
Third grade	1,461	136	1,325	185	14
Fourth grade	1,423	118	1,305	149	11
Fifth grade	1,412	111	1,301	269	20
Sixth grade	1,248	110	1,138	190	16
Seventh grade [1]	944	63	881	111	13
Eighth grade [1]	619	36	583	28	5
Total	10,736	926	9,810	1,425	15
COLORED SCHOOLS.					
First grade	1,853	402	1,451	446	30
Second grade	972	103	869	114	14
Third grade	889	103	786	117	15
Fourth grade	696	86	610	129	21
Fifth grade	584	65	519	87	17
Sixth grade	423	34	389	47	12
Seventh grade [1]	303	50	253	24	10
Eighth grade [1]	43	4	39	4	10
Total	5,763	847	4,917	968	18
Grand total	16,499	1,773	14,727	2,393	16

[1] Seventh and eighth grade pupils at Vocational High School and at Kortrecht High School not included.

An examination of the table suggests at once that, for whatever reason, an unduly large percentage of children are failing to pass their examinations and to win promotion; for, in general school practice where failures run higher than from 8 to 10 per cent of those remaining to the end of the term, it is made a matter of investigation by the superintendent's office. Among the white elementary schools the lowest percentage of failure is found in the eighth grades of the system and the highest in the fifth grades, the range being from 5 per cent in the former to 20 per cent in the latter. With the grades of the colored schools the range of failures is somewhat different, running from 10 per cent in the seventh and eighth grades to about 30 per cent in the first grades.

A second observation which is apparent is this: That the table offers no evidence to show that there is any standardized basis of promotion and failure in the system. With this point of variation among schools in mind in respect to the percentages promoted and failed, another table was prepared showing the distribution of failures among schools within the limits of a single grade. The fifth grade was selected at random for this purpose. The following table shows the failures among the different schools of the system:

TABLE 16.—*Failures in the fifth grade distributed by schools, February, 1919.*

Schools.	Net enrollment.	Withdrawals.	Number remaining to end of term.	Failed.	
				Number.	Per cent.
WHITE.					
Bruce	126	6	120	1	1
Church Home	4	1	3	....	0
Cummings	68	2	66	19	29
Gordon	79	6	73	24	33
Guthrie	58	8	50	3	6
Hill	123	21	102	33	32
Idlewild	97	4	93	2	2
Lauderdale	114	10	104	7	7
Leath	77	6	61	17	28
Leath Orphanage	....	....	....	....	....
Lenox	40	....	40	5	12
Madison Heights	45	3	42	3	7
Maury	91	6	85	24	28
Merrill	82	11	71	11	15
Open Air	4	1	3	1	....
Peabody	42	1	41	1	0
Pope	99	9	90	27	30
Riverside [1]	....	....	....	46	....
Rozelle	60	6	54	12	22
Smith	71	2	69	5	7
Snowden	57	8	47	7	13
St. Paul [1]	75	....	75	....	....
Total	1,412	111	1,289	248	19.3
COLORED.					
Caldwell	99	....	99	0	0
Carnes	228	9	219	4	2
Charles	28	0	28	0	0
Grant	219	8	211	9	5
Greenwood	149	11	138	12	10
Klondike	....	....	....	....	....
Kortrecht Grammar	213	2	211	13	7
La Rose	355	15	340	28	9
Porter	247	8	239	6	3
Virginia Avenue	315	12	203	15	7
Total	1,853	65	1,788	87	5

[1] Complete reports not available.

This distribution of failures in the fifth grade among the schools of the city brings out strikingly the great variation in practice. In some schools, such as the Bruce, Smith, Snowden, Idlewild, there were no failures at all, or practically none, while in other schools, such as in the Cummings, Gordan, Maury, Leath, Rozelle, Pope, and the A. B. Hill, a fifth and even a third of the grade failed.

It is not reasonable to suppose that in large schools, such as the Bruce, Smith, Snowden, and Idlewild, the children have attained such proficiency that all deserve to be promoted; neither can one believe, under normal conditions, that such a large percentage of the same grade in the second group of schools should fail.

THE SITUATION IN THE CENTRAL HIGH SCHOOL.

An examination of the records of the Central High School, with respect to promotions and failures, was made for the same term, that ending in February, 1919. On account of space limitations, only the records of the ninth grade will be discussed. The following table shows the facts for the principal subjects studied by the pupils of this grade:

TABLE 17.—*Promotions and failures, ninth grade, Central High School, February, 1919.*

Class.	Number of pupils remaining.	Number of pupils who dropped out.	Promoted.		Failed.	
			Number.	Per centage.	Number.	Per centage.
Algebra:						
Ninth, first	262	14	184	70.0	78	30.0
Ninth, second	116	14	78	67.2	38	32.8
Total	378	28	262	69.3	116	30.7
English:						
Ninth, first	307	50	229	74.6	78	25.4
Ninth, second	152	16	139	91.4	13	8.6
Total	459	66	368	80.0	91	20.0
Latin:						
Ninth, first	118	2	74	62.7	44	37.3
Ninth, second	75	....	44	58.6	31	41.4
Total	193	2	118	61.2	75	38.8
French I:						
Ninth	242	34	113	46.7	129	53.3
Spanish I:						
Ninth	48	....	32	66.6	16	33.4
History:						
Ninth, first	153	14	137	90.0	16	10.0
Ninth, second	50	5	45	90.0	5	10.0
Total	203	19	182	90.0	21	10.0
General science:						
Ninth, first	54	7	37	68.5	17	31.5
Ninth, second	87	3	77	88.4	10	11.6
Total	141	10	114	80.8	27	19.2
Domestic science:						
Ninth, first	121	25	109	90.0	12	10.0
Ninth, second	69	9	68	100.0	1	.0
Total	190	34	177	93.2	13	6.8

The foregoing table indicates that the number of failures in the ninth grade of the Central High School for all subjects taken except history and domestic science is appalling. In algebra, 30 per cent of the grade failed; in English, 20 per cent; in Latin, 38.8 per cent; in French, 53 per cent; in Spanish, 33 per cent; in history, 10 per cent; in general science, 19 per cent; and in domestic science, 6 per cent. Besides this, during the term many of the pupils dropped out of their classes before the term ended, a number of them, doubtless, because they had become discouraged in their work. For example, in the classes in algebra, 28 pupils are reported to have dropped out; in English, 66; in Latin, 2; in French, 34; in Spanish, none; in history, 19; in general science, 10; and in domestic science, 34. These pupils, having left their classes before the end of the term, do not show in the failures as recorded in the preceding table.

COMPARISON WITH OTHER HIGH SCHOOLS.

In this connection it will be of interest to compare the failures in the ninth grade of the Central High School of Memphis with the failures in the same grade in the schools of other cities. This comparison is shown in the following table:

TABLE 18.—*Ninth grade failures in several cities.*

Subjects.	Central High, Memphis.	All high schools, Oakland.[1]	Los Angeles[2] High School.	All high[3] schools, San Francisco.	All high[4] schools, Denver.	All high[5] schools, Trenton.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
English	20.0	9.6	10.1	10.2	14.8	5.0
History	10.0	9.8	6.0	10.8	13.7	11.0
Mathematics	30.7	19.9	20.1	16.0	23.5	27.0
Science	19.2	12.0	7.2	7.8	12.8	9.0
Ancient languages	38.8	26.1	25.3	11.6	23.0	22.0
Modern languages	50.0	24.3	12.3	12.1	6.0	.0
Domestic science	6.8	3.6	.0	2.0	.0	8.0

[1] Report of Superintendent of Schools, Oakland, Calif. (1917–18), p. 118.
[2] Report of Board of Education, Los Angeles, Calif. (1914), p. 193.
[3] Survey Report, San Francisco Schools, U. S. Bureau Education, Bul. 1917, No. 46, p. 60.
[4] Board of Education Report, Denver, Colo. (1917–18), p. 130.
[5] Report of Board of Education, Trenton, N. J. (1918), p. 19.

VARIATIONS IN STANDARDS OF PROMOTIONS.

It is to be noted that, taken by subjects, there is a variation in the percentage failed in the Central High School ranging from 6 per cent in the domestic-science classes to a maximum of 53 per cent in the French classes. This would appear to indicate that as among the groups of teachers teaching algebra, English, French, etc., there is no correlation in respect to a standard of promotion and of failure. It will be of interest to carry this point of uniformity of standards a step further and inquire if there is any considerable variation in the percentage failed as among the teachers of a single group, among the teachers of algebra, for example, or among those of English. The following table will show the facts for several groups of teachers who taught ninth-grade beginning classes:

TABLE 19.—*Ninth, first, classes.*

Teachers.	Number in class.	Promoted.		Failed.	
		Number.	Percentage.	Number.	Percentage.
ALGEBRA.					
Teacher No. 1	87	55	63.2	32	36.8
Teacher No. 2	60	45	75.0	15	25.0
Teacher No. 3	56	38	68.0	18	32.0
Teacher No. 4	59	46	77.9	13	22.1
ENGLISH.					
Teacher No. 5	94	62	66.0	32	34.0
Teacher No. 6	66	50	76.0	16	24.0
Teacher No. 7	55	53	96.3	2	3.7
Teacher No. 8	21	15	71.0	6	29.0
Teacher No. 9	53	32	60.4	21	39.6
Teacher No. 10	18	17	94.4	1	5.6
FRENCH.					
Teacher No. 11	52	21	40.0	31	60.0
Teacher No. 12	127	51	40.0	76	60.0
Teacher No. 13	63	41	65.0	22	35.0
LATIN.					
Teacher No. 14	31	22	70.0	9	30.0
Teacher No. 15	87	52	60.0	35	40.0
HISTORY.					
Teacher No. 16	62	56	90.0	6	10.0
Teacher No. 17	91	81	90.0	10	10.0

The preceding table gives the records respecting promotions and failures of 17 different teachers who taught beginning ninth-grade classes in the several principal subjects. An examination of the column marked "percentage failed" will show that the range of variation in the entire list is from a minimum of 3.7 per cent by one teacher of English to the maximum of 60 per cent by two teachers of French. With the exception of two teachers of English and the two teachers of history, all apparently agree in having a percentage of failures among their pupils which is startling, to say the least, and indicates clearly that something is radically wrong somewhere, for a school system that is by its own records no more effective in getting pupils to do work of a satisfactory quality than is indicated by these reports needs to subject itself to a very thorough heart searching.

The figures, too, it must again be pointed out, take no account of the pupils who became disheartened and dropped out before the term closed.

REASONS FOR NONPROMOTIONS IN THE GRADE SCHOOLS.

Fortunately, Memphis has an unusually excellent system of term reports, which are filed with the superintendent by the principals and teachers. Among other matters of significance, teachers are asked to enumerate the reasons which in their judgment account for the nonpromotions. A summary of the reasons given by the teachers of the elementary schools for the term closing February, 1919, follows:

TABLE 20.—*Causes for nonpromotions in elementary schools, term ending February, 1919.*

Causes.	First grade.	Second grade.	Third grade.	Fourth grade.	Fifth grade.	Sixth grade.	Seventh grade.	Eighth grade.	Total.
WHITE SCHOOLS.									
Home conditions	0	1	0	0	0	0	0	0	1
Irregular attendance	84	37	42	24	39	43	15	8	292
Not prepared for grade	38	0	1	3	8	3	1	0	54
Physical defects	23	3	7	3	4	4	1	0	45
Personal illness	29	8	14	11	16	8	5	0	91
Incapacity (mental)	49	1	28	24	50	18	7	1	208
Entered grade late	0	1	5	5	3	1	0	0	15
Indifference	33	35	33	49	90	80	65	15	400
Slow	17	1	0	0	0	0	0	0	18
Left	38	47	18	16	21	19	9	3	171
Failure	8	0	37	14	38	14	8	1	120
Undeveloped	10	0	0	0	0	0	0	0	10
Total	329	164	185	149	269	190	111	28	1,425
COLORED SCHOOLS.									
Home conditions	....	....	....	....	....	....	....	....	....
Irregular attendance	272	47	51	60	26	32	6	3	497
Not prepared for grade	....	....	....	....	....	....	....	....	....
Physical defects	13	....	6	2	....	1	....	....	22
Personal illness	115	13	3	14	4	....	2	....	151
Incapacity (mental)	9	7	13	6	22	....	1	1	59
Entered grade late	....	1	10	16	8	....	5	....	40
Indifference	37	46	34	31	27	17	10	....	199
Slow	....	....	....	....	....	....	....	....	....
Left	....	....	....	....	....	....	....	....	....
Failure	....	....	....	....	....	....	....	....	....
Undeveloped	....	....	....	....	....	....	....	....	....
Total	446	114	117	129	87	47	24	4	968
Grand total	775	278	302	278	356	237	135	32	2,393

An examination of the preceding table shows that for purposes of analyzing the problem of retardation in the grades, several of the items can be grouped. For example, absence on account of illness can be combined properly with the item, "irregularity of attendance"; so another group could properly comprise "mental incapacity," "slow," and "indifference," for these terms, probably, for the most part are merely different ways of saying that the children of the group are not interested in their work. With this grouping of items in mind, we find that "irregularity of attendance," according to the teachers, will account for the nonpromotion of 383 cases, while so-called "indifference" explains 626 cases. Thus 1,000 of the 1,425 instances of nonpromotion, in the judgment of the teachers, are to be attributed to irregularity in attendance and to indifference. In point of fact, much of the irregularity in attendance, though not all of it, can be set down to the pupils' lack of interest in their school work, for if they were vitally interested, there would be fewer absences than now appear.

ATTENDANCE AND ABSENCE IN ELEMENTARY SCHOOLS.

Fortunately, again, the records of the Memphis schools show the facts of attendance and absence in a significant way. The following table gives the facts according to the reports filed with the superintendant:

TABLE 21.—*Distribution of attendance by periods in elementary schools, term ending February, 1919.*

ATTENDANCE.	First grade.	Second grade.	Third grade.	Fourth grade.	Fifth grade.	Sixth grade.	Seventh grade.	Eighth grade.	Total.	Per cent of total.
WHITE SCHOOLS.										
Attending entire term	56	57	56	59	74	75	50	42	469	4.2
Attending at least 80 days	329	377	388	376	416	431	349	227	2,893	25.9
Attending at least 70 days	610	482	468	497	447	399	320	233	3,456	31.0
Attending at least 60 days	351	190	201	183	181	157	100	45	1,408	12.6
Attending at least 50 days	235	100	122	85	84	44	32	22	724	6.6
Attending at least 40 days	127	73	66	63	41	35	30	9	444	4.0
Attending at least 30 days	119	59	54	49	54	48	20	9	412	3.7
Attending at least 20 days	118	78	68	53	47	44	18	11	437	3.9
Attending at least 10 days	143	89	87	74	66	56	28	23	566	5.1
Attending less than 10 days	88	43	58	52	33	26	20	8	328	3.0
Total	.....	.....	.....	.....	.....	.....	.....	.....	11,137	.....
COLORED SCHOOLS.										
Attending entire term	75	40	21	29	31	31	10	1	238	4.3
Attending at least 80 days	156	198	155	142	149	92	43	5	940	16.5
Attending at least 70 days	314	231	209	168	139	97	68	7	1,233	21.7
Attending at least 60 days	218	131	115	110	80	58	34	11	757	13.3
Attending at least 50 days	185	75	66	66	42	32	13	10	489	8.6
Attending at least 40 days	144	51	57	38	20	23	10	2	345	6.1
Attending at least 30 days	209	68	75	72	35	21	13	2	495	8.7
Attending at least 20 days	195	63	55	55	32	18	8	1	427	7.5
Attending at least 10 days	238	82	44	60	30	9	6	2	471	8.3
Attending less than 10 days	132	29	37	30	28	8	15	2	281	5.0
Total	.....	.....	.....	.....	.....	.....	.....	.....	5,676	.....
Grand total	.....	.....	.....	.....	.....	.....	.....	.....	16,813	.....

[Note: The records of the Riverside and Klondike schools do not appear in this table, neither do the 7th and 8th grades of the Vocational High School and of the Kortrecht High School.]

According to this table only 4 per cent of the white children in the elementary schools attended the full term; 30 per cent attended four months or more (80 days); 61 per cent attended three and one-half months or more (70 days); about three-fourths of the children (73 per cent) attended three months (60 days) or more; while the remaining quarter of the children failed to attend as much as three months. While there is nothing to show the correlation between the number who failed of promotion and the facts of nonattendance, nevertheless it is probable that there is such a correlation, for it stands to reason that a pupil who, for whatever cause, is absent a great deal from his recitations can not expect to fare so well in terms of school credits as one who is always in his place, and who therefore gets all the benefit of instruction. Methods, then, directed toward cutting down the irregularity of attendance which is shown in this table will undoubtedly help in lessening the number of failures in school work. In the view of the teachers themselves, however, irregularity will account for a percentage of nonpromotion only.

OTHER CAUSES FOR NONPROMOTION.

A number of possible causes suggest themselves as among the factors accounting for the unusual and disturbing percentage of failure in the work of the schools. Obviously lack of supervision in the grades and in the high schools is an important factor in nonpromotion, for the preceding tables indicate that there is little or no team work in the system. Again, teachers, especially the high-school teachers, are not taking the children where they find them in point of preparation, but are assuming a preparation which the teachers of the elementary schools have not given. Probably there is a lack of cooperation between the high school and elementary school teachers. Possibly not enough attention is being given to children by way of teaching them how to study. Again, it is not improbable that parents do not take a sufficiently serious view of school work, and in consequence permit the attention of the children to be diverted from their work by too many distractions of a social character. Perhaps, too, there have been too many interruptions to the work of the schools themselves. While doubtless all these reasons and more are factors in the situation, nevertheless the survey staff is convinced that a more weighty factor than any of these is to be found in the fact that promotions are based upon formal examinations, and that these examinations dominate the work of the system and color everything which the teachers do. For a further discussion of the factors entering into failure, see Chapter V.

PROMOTION BY FORMAL EXAMINATION.

Written examinations given in the form of tests at intervals during the term have a place in school procedure for which it is impossible to find a complete substitute, but as a basis for determining a pupil's fitness for promotion the formal examination held at stated times has fallen into disrepute. It is a useful means, for example, of showing the teacher where the preparation has been weak and where it has been strong; it trains the pupil to use language concisely and with precision under sharply drawn limits of time; it requires the quick exercise of judgment in respect to what is essential and what is relatively less essential; and it tests the ability quickly to organize knowledge and information in a new setting. But, in general, when promotion is made to turn upon it, in whole or in any considerable degree, the examination inevitably leads to "cramming," to undue worry and nervousness, and to working with the sole end in view of passing, causing the entire work of the school to center about the one idea. It puts a premium upon wrong methods and stresses what should be but a mere incident in the plan of education; it provokes bitterness and unseemly strife between parents and teachers; and it occasions a vast amount of unnecessary and unprofitable labor for the teacher in reading an endless number of papers, in keeping records, and in making out reports.

This is precisely the situation which the survey staff found in Memphis during the month of May, when they observed the work of the schools. Everywhere everybody was "getting ready for the examinations," which meant that with but discouragingly few exceptions the children were being drilled almost constantly upon memory facts. Old examination lists were much in evidence, as these, it was thought, would give a line on the nature of the forthcoming examination. What the nature of the instructional activities were prior to the visits of the members of the staff of course we can not know, except by inference, but certainly during the month which the staff spent in the classes they saw very little teaching of the kind which really educates through getting the child to think for himself, but they did see an immense amount of the "cramming" of memories with isolated facts and unrelated definitions which were without value except as these might help the child to get by the prospective examinations. More discussion in teaching and less memorization is needed. A system, however, which is dominated by the formal examination will inevitably stress memory work, and thereby to a dangerous degree teaching tends to become formal and mechanical and not truly educative.

Furthermore, that the formal examination is no criterion for determining ability is a conclusion abundantly supported by an examination of the school careers of men who have become famous. For example, Thomas A. Edison never could pass his school examinations, and when his teacher reported that it was a waste of time for him to attend school, he was taken out and never returned. Charles W. Eliot, while president of Harvard University, once remarked that he would not have been able to pass the entrance examinations of his own university. Henry Ward Beecher stood sixty-fourth in an examination in grammar, while the boy who ranked first became a barber in a southern city. It is related that a Japanese university once appointed a faculty committee to investigate and report upon the question as to what examination could be given the youth of that land in order that young men of the greatest promise for the future might be selected. After an exhaustive study of the biographies of eminent men the report submitted was: "The one most prevalent characteristic of men of mark in their school days is that they could not pass their examinations." McAndrew,[1] who mentions these instances, among other illustrations, reports that he once took the examination records of 90 pupils entering a private high school and divided them into 10 groups, according to rank. At the end of each year for a period of years he reclassified them into the same groups, and expressed the progressive standing of each pupil by a diagram consisting of lines which theoretically should have run in nearly a straight line across the page. Actually, however, the lines crossed and recrossed as lowest-group pupils rose to the highest group and the highest fell into medium or low places.

THE INACCURACY OF TEACHERS' MARKS.

It is inconceivable that there is any such variation in the actual ability of the children of Memphis as is disclosed in the foregoing study of their promotion records, for children are pretty much the same the world over in respect to their reaction to school instruction. That is to say, the average of a group in one part of the country will measure up pretty close to the average of a group of the same age in any other part of the country. The variation comes, not among the children, but among the teachers, in their estimate of what the pupils have accomplished. A number of studies have been made during the last few years to determine the accuracy and reliability of the marks which teachers give to pupils. An interesting summary of several of these investigations is to be found in Monroe, DeVoss, and Kelly: "Educational Tests and Measurements." Houghton Mifflin Co., 1917.

Carter,[2] for example, in 1911, took the marks of the eighth-grade pupils who had entered high school from three elementary schools and compared them with the marks received in the high school. He reasoned that if the marks were an accurate rating of the pupil's ability, in general the same relative position obtained in the elementary schools would be maintained in the high school. He found, however, that there was a complete reversal from what one would expect, for the pupils coming in from the school which gave the lowest marks outstripped the others in maintaining or increasing their original rank.

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[1] McAndrew: Our Old Friend, The Examination. Nat. Educ. Assoc., 1916, p. 527.

[2] Carter, R. E. Correlation of Elementary Schools and High Schools. In Elementary School Teacher, vol. 12, pp. 109–118.

Kelley,[1] in 1913, made a similar study of the marks of sixth-grade pupils coming into a common departmental school for seventh-grade work from four ward school. To quote his conclusion:

> This means that for work which the teacher in school C (one of the ward schools) would give a mark of "G" (good) in language, penmanship or history, the teacher in school D (another ward school) would give less than a mark of "F" (fair).

Starch and Elliott,[2] to mention but one other of many investigations of the accuracy of teachers' markings, made a facsimile reproduction of an examination paper handed in by a pupil in plane geometry and sent a copy to the teachers of geometry of all the high schools included in the North Central Association of Colleges and Secondary Schools, requesting that they mark the paper on a scale of 100 per cent. One hundred and sixteen teachers complied, with the following results: Two of the ratings were above 90, while one was below 30; 20 were 80 or above, while 20 others were below 60; 47 teachers gave a passing mark or above, while 69 teachers gave a mark which would have failed the writer of the paper.

These and other investigations of similar character point inevitably to the conclusion that teachers' marks, as determined in most schools, are inaccurate and unreliable records of the performance, or ability, or accomplishment of pupils, and that the faith which both pupils and teachers have placed in traditional systems of marking is a blind, unreasoning one. Is a teacher rating merely the performance of a pupil in the particular examination set? Or does she take into account the pupil's ability? Or, again, is it his accomplishment extended over a period of considerable time that she is rating? Others, again, may have in mind the pupil's effort. Still others may try to show the degree of improvement the pupil has made within a given period. The question: "What do we mark?" was put down by one superintendent to his teachers[3] and the following were some of the answers he got: "Improvement," "ability," "serious purpose," "moral qualities," "interest in work," "accomplishment," "accuracy, neatness, and promptness," "acquisition of knowldege." Again, what is the 100 per cent ideal which the teacher has in thought? What would the zero point represent on a percentile scale? "Does 50 per cent," to quote a writer on school problems, "mean half knowing a lesson, knowing half a lesson, knowing half as much as the teacher knows, half as much as the text, half what the pupil ought to know, or half what he could know?" The problem is not simplified because letters, meaningless in themselves, are adopted to register a pupil's rank, for usually these are merely symbols into which the percentile scale is translated.

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[1] Kelly, F. J. Teachers' Marks. Teachers' College Contributions to Education, No. 66, p. 7.

[2] Starch and Elliott. Reliability of Grading High School Work. Sch. Rev., vols 20, 21.

[3] Camp, Frederick S. Marks: An administrative problem. Sch. Rev., Dec., 1917.

The difficulty is at once apparent. The teacher has but a hazy and ill-defined theoretical standard of excellence in mind by which she judges as best she may the standing of her pupils. It is not an accurate basis of measurement, for the reason that it is shifting and variable in her own mind, and furthermore because she is trying to use one standard by which to express a judgment on a number of qualities which she wishes to take into account. As the standard of one teacher will be different, naturally, from that held by another, as long as the marking system is as it is, no other result can be expected than one in which there is a wide variation in expressed judgment. When, furthermore, there is a lack of coordination of work and of standards of judging the results, which invariably ensues if there be inadequate supervision, this variation in the percentage of pupils promoted in different classes will be greatly accentuated. The situation, then, in Memphis, bad as it is, in respect to lack of uniformity of standard, is not unusual except in degree. It will always obtain so long as the present marking system is retained and so long as teachers are not more closely supervised.

A PLAN BASED ON THE NORMAL DISTRIBUTION OF ABILITY.

The whole problem, however, would be greatly simplified were the teachers to discard the theoretical standard of excellence which they severally hold and frankly recognize that in relation to ability or effort or accomplishment, or, for that matter, any other quality they care to consider, their school class is a normal group of pupils, comprising a few individuals of marked proficiency, many of average attainments, and a few who are poor. Or, putting the fact another way: In every group not artificially selected there is a normal distribution with respect to any trait or qualification. The majority of the class will be found clustering pretty closely about the average or mean position, while the further above or below this mean one goes the fewer will be the individuals found.

For example, many careful studies have shown that in any class there are a few who are excellent as compared with the remainder of the class; about twice as many are very good; 40 to 50 per cent are somewhere around the average; about as many are poor as are good; and about as many are very poor as are excellent. It is very difficult to measure the precise ability of a pupil; there is no known precise standard to use in measuring it, but it is not difficult for a teacher to pick out from 3 to 10 per cent of her class who are excellent and to place the others in four or five groups with respect to these. Furthermore, she does not need a week of formal examinations at the end of the term to make such a distribution. In short, as Bennett[1] says, "We can not presume to state how much ability a pupil has, nor how valuable his work has been, but we can state his relative standing in the class with reasonable accuracy."

Finkelstein,[2] in his study of marks given at Cornell University, recommends a five-division marking system based on the following distribution of the individuals of a given class: Three per cent, excellent; 21 per cent, superior; 45 per cent, medium; 19 per cent, inferior; 12 per cent, very poor. Of this last group, approximately 11 per cent should be conditioned and 1 per cent failed, he asserts. He holds that this distribution conforms to theoretical requirements and that it expresses fairly well the practice of Cornell University, as shown by the tabulation of more than 20,000 marks, extending over a period of three years and taken from 163 courses. His recommendations are made primarily for the high school and the university.

Other investigators have reached somewhat different conclusions regarding the distribution. Some of these are:

TABLE 22.—*Distribution of students in examinations.*

Investigators.	A	B	C	D	E
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Cattell	10	20	40	20	10
Smith	10	15	50	15	10
Ruediger	4	24	44	24	4
Meyer	4	21	50	18	7
Foster	3	22	50	22	3
Dearborn	2	23	50	23	2
Gray	7	20	42	21	7
Cajori	7	24	38	24	7
Starch:					
Elementary	10	39	39	8	4
Advanced	14	44	33	6.5	2.5

These differences of opinion easily fall within the range of variation which a system, to be flexible, should permit. Such a scale could be stated as follows: Of the total number of marks given, let the A's comprise from 3 to 10 per cent; the B's from 15 to 22 per cent; the C's from 40 to 50 per cent; the D's from 15 to 22 per cent; and the E's, or failures, from 2 to 10 per cent.

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[1] Bennett, Henry E. School Efficiency. Ginn & Co., 1917.

[2] Finkelstein, I. E. The Marking System in Theory and Practice. Warwick & York, Baltimore, 1913.

A simple plan, discussed by Bennett,[1] which has worked satisfactorily is essentially of the same type as these, but with the proportions modified somewhat. It operates in this way: As early in the term as possible the teacher divides her pupils, not physically but for purposes of instruction, into four tentative groups: the first being the "best quarter" of the class; the second consisting of the "second-best quarter"; the third comprising all the others who have done work which will entitle them to be passed; and the fourth being those whose work is considered of a doubtful quality. These groups can be lettered, for convenience of reference, A, B, C, D, or for that matter, any other letters or symbols would do just as well. The special attention and effort of the teacher throughout the term should, of course, be devoted to those in group D, in order that the number therein who are finally required to repeat the term's work, designated as E, shall be as few as possible. And none should be failed, finally, without the sanction of principal and supervisor after careful review and consideration and with the question consciously in mind: Where will the pupil profit most, in the old grade or in the new?

In practice, it should be observed, the teacher will occasionally find it necessary to deviate from the adopted form of distribution. She should not hesitate to make such deviation if it seems to her to be necessary, but in every instance of failure to adhere she should be expected to make a full and satisfactory explanation to supervisor or superintendent.

Such plans as the foregoing are based upon two assumptions: That the work of a given grade and the standards demanded therein shall be so shaped that the large majority of the class shall at all times be doing successful work; also, that in every class the normal distribution of ability is approximately the same. Neither of these assumptions can be seriously questioned, we feel. Furthermore, the adoption of some such plan as this would make impossible such wide variations in standards of promotions as are to be found among the teachers of the schools of Memphis, for in each instance, under its operation, it is clear the class itself would virtually determine its own standard by which the individual members shall be judged in respect to promotion. Such a promotion basis as this would do away, too, with the necessity of spending so much of the all-too-limited time of the school on formal examinations and in grading the papers and recording and averaging the results.

In promoting children from one grade to another only one question need be asked, Is the child able to do the work of the grade with other children who are promoted?

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[1] Bennett, Henry E. School Efficiency. Ginn & Co., 1917.

5. THE ABILITY OF MEMPHIS TO FINANCE THE PROPOSED PROGRAM.

The practicability of any plan for the advancement of education must ultimately rest upon the ability of a community to pay for it. It is the purpose, then, of this section to discuss the question whether or not Memphis is able to give her children the advantages which progressive cities throughout the country are giving theirs. The first point to consider is the income which Memphis receives with which to conduct her various activities and to see how she distributes this amount.

THE WAY MEMPHIS APPORTIONS HER INCOME.

It will be of significance to see how the municipality of Memphis apportions the money which she receives and particularly to note what the proportion of it is which she gives to her schools in comparison with what other cities of the country are doing. The basis for coming at the rank of Memphis among cities in this respect is to be found in the statistics compiled by the Census Bureau for 1917 and published under the title "Financial Statistics of Cities Having a Population of over 30,000." Table 13, of this publication, shows that Memphis expended during 1917 $14.18 per capita of population, on all her activities, and that the amount was distributed among these activities in the following way:

For general government, $0.82; for police protection, $1.75; for fire protection, $1.53; for health and sanitation, $1.38; for the extension and improvement of streets, $2.63; for charities, $0.97; for libraries, $0.23; for parks and playgrounds, $0.91; and for schools, $3.68. The remaining $0.28 of the aggregate amount was used for other miscellaneous purposes, all important but difficult to classify.

In themselves these figures mean very little. Not until they are compared and contrasted with the expenditures of other cities for the same purposes do they begin to take on meaning. The table which follows shows how the distributed expenditures of 219 cities look when viewed as an average:

TABLE 23.—*Distribution of city expenditures, 1917.*

Purposes.	Memphis.	Average of 219 cities.
General government	$0.82	$2.18
Police department	1.75	2.08
Fire department	1.53	1.65
Health and sanitation	1.38	1.94
Street department	2.63	2.01
Charities	.97	1.36
Libraries	.23	.25
Parks and playgrounds	.91	.67
Schools	*3.68*	*5.91*
All other purposes	.28	1.02
Total per capita expenditure	14.18	19.07

While this comparison helps us to see where Memphis stands in relation to the actual average expenditure of the 219 cities considered, yet, as her total expenditure is considerably less than the total average expenditure of the list, another table is needed to make her rank in this matter perfectly clear, and that is a table showing the proportion each item bears to the entire expenditure. This table follows:

TABLE 24.—*Percentage distribution compared with other cities.*

Purposes.	Memphis.	Average of 219 cities.
	Per cent.	*Per cent.*
General government	5.8	11.3
Police department	12.3	10.9
Fire department	10.8	8.6
Health and sanitation	9.8	10.1
Street department	18.6	10.6
Charities	6.8	7.1
Libraries	1.6	1.3
Parks and playgrounds	6.4	3.5
Schools	*25.9*	*31.0*
All other purposes	2.0	5.6

From this table it is apparent that, as compared with the average of 219 cities, Memphis's chief interest is in the police, fire, and street departments and also in her parks and libraries; that her interest in health and charities is somewhat less than the average of the cities listed; while in the expenses of general government and in the percentage of her income which goes to the schools she is far below the average of the 219 cities listed by the Census Bureau. Less than 26 per cent of Memphis's expenditure goes to the maintenance of her school department, whereas of the 219 cities of the country considered in these statistics the average expenditure for the schools is 31 per cent. That is, Memphis's proportionate expenditure for the schools would have to be increased nearly 20 per cent to bring her rank up to the average of the cities of the country.

Of 21 cities in the group of cities having a population of 300,000 and above, only 5 expended a smaller proportion of their income on their schools than did Memphis. Of the 45 cities in the next lower group, 100,000 to 300,000 population, the group to which Memphis belongs, she was lowest of all. Of the 62 cities in the group of 50,000 to 100,000 population, there were only 7 ranking lower than Memphis, and finally of the group of 91 cities having a population of 30,000 to 50,000, there were only 8 whose expenditures on their school departments, proportionate to that expended upon other lines of municipal activity, were less than that expended by Memphis. Thus of 219 cities enumerated by the Census Bureau having a population of 30,000 and above, there was an aggregate of only 20 ranking lower than Memphis in this particular. The following table gives the list of these cities, together with the percentage which the school department in each instance received:

TABLE 25.—*The only cities spending proportionately less on schools than Memphis.*

	Per cent of total expenditure given to schools.
Population of 300,000 and above (21 cities):	
Boston	25.5
Detroit	15.9
Baltimore	22.6
Buffalo	25.0
San Francisco	20.6
Population of 100,000 to 300,000 (45 cities):	
Memphis	*25.9*
Population of 50,000 to 100,000 (62 cities):	
Augusta	24.2
Jacksonville	16.5
Savannah	19.9
Charleston, S. C	19.5
Chattanooga	24.7
Mobile	22.5
Tampa	18.7
Population of 30,000 to 50,000 (91 cities):	
Montgomery, Ala	24.1
Butte, Mont	25.3
Galveston, Tex	21.3
Shreveport, La	24.9
Columbia, S. C	20.3
Lynchburg, Va	25.7
Brookline, Mass	23.3
Wilmington, N. C	23.6

PER CAPITA EXPENDITURE FOR SCHOOLS COMPARED.

The foregoing ranking is based on the proportionate expenditure for schools among the several municipal departments of the 219 cities listed. It will be interesting to learn where Memphis stands in relation to these cities in respect to the amount actually expended on the basis of per capita of population. The number of cities expending on their schools more than $3.68 per capita of population, which is the amount expended by Memphis; also, the number of cities expending less than this amount are shown in the following table:

TABLE 26.—*Per capita school expenditure of 219 cities in 1919.*

Cities.	Number above Memphis.		Number below Memphis.	Total number of cities.
	$5 and above.	$3.69 to $4.99		
All cities 300,000 and more	17	2	2	21
All cities 100,000 to 300,000	27	15	2	44
All cities 50,000 to 100,000	32	17	13	62
All cities 30,000 to 50,000	55	20	16	91
Total	131	54	33	218

Memphis, then, is seen to stand No. 34 from the bottom of the list of 219 cities in respect to the amount spent on school maintenance per capita of population. In the group of 45 cities to which Memphis belongs, the group whose population ranges from 100,000 to 300,000, there are only two cities below her, namely, Birmingham, whose expenditure was $2.83, and Fort Worth, with an expenditure of $3.11.

Of the 185 cities of the list which expend more than Memphis does, 25 of them expend double the amount or more per capita. This list follows:

TABLE 27.—*Cities which expend on their schools more than double that of Memphis in 1917.*

	Per capita.		Per capita.		Per capita.
Memphis	$3.68	Grand Rapids	$7.42	Lincoln	$8.33
Boston	7.73	Hartford	7.92	Newton	10.63
Los Angeles	10.56	Des Moines	9.00	East Orange	8.25
Newark	7.65	Yonkers	7.74	New Rochelle	7.70
Washington, D. C	7.69	Atlantic City	8.33	Cedar Rapids	8.87
Minneapolis	7.62	Sioux City	7.46	Mount Vernon	9.82
Oakland	7.42	San Diego	10.01	Fresno	8.33
Worcester	7.38	Pasadena	10.06	Stockton	8.22
Brookline	8.96	Madison	7.94		

This apparent indifference of Memphis toward the financial needs of her schools, as compared with other cities, is even more strikingly shown in the fact that whereas Memphis expended an aggregate of $14.18 on her municipal activities during 1917, including the schools, there were 117 cities which expended a less amount than this. That is to say, in 1917, whereas Memphis stood No. 118 from the bottom in the aggregate of city expenditures for all purposes, she stood No. 34 from the bottom in the proportion of that expenditure which was given to the schools.

AMOUNT EXPENDED PER PUPIL.

A method frequently employed of determining whether or not a city is expending enough money in the maintenance of its schools is that of comparing cities in respect to the amount each is expending per pupil in attendance. The statistical facts needed to make this comparison are to be found in the reports which are made annually to the United States Bureau of Education by the school officials of the cities of this country. From these reports for 1917–18, not yet published, 24 cities were selected, representative of different sections of the United States. The following table shows how Memphis stands in comparison. The cost is reckoned in two ways: (1) On the number of pupils in average daily attendance; and (2) on the net enrollment of pupils, i. e., the number of different individuals who enrolled in the system during the year.

TABLE 28.—*Amount expended per pupil on school maintenance, in 24 cities, in 1917–18.*

Cities.	Total amount expended on maintenance.	Amount based on average daily attendance.		Amount based on net enrollment.		Percentage of net enrollment in attendance.
		Average daily attendance.	Amount per pupil.	Pupils' net enrollment.	Amount per pupil.	
Memphis	*$770,429*	*14,865*	*$51,82*	*21,219*	*$36.38*	*70.0*
Birmingham	639,849	21,302	30.03	30,946	20.67	68.8
Syracuse	847,374	19,545	43.35	23,809	35.59	82.0
Los Angeles	5,002,381	65,672	76.17	90,689	55.16	72.4
Oakland	1,757,285	26,466	66.40	34,683	50.66	76.3
San Francisco	2,549,629	46,384	54.98	61,244	41.63	75.7
New Haven	1,081,576	24,856	43.51	29,611	36.52	83.9
Louisville	1,081,361	23,825	45.39	32,398	33.37	73.5
Boston	6,347,478	102,464	61.94	132,848	47.08	77.1
Worcester	1,228,869	22,745	54.02	27,638	44.07	82.3
Detroit	4,561,014	84,922	53.70	117,812	38.71	72.0
Minneapolis	3,259,284	48,445	68.92	58,433	55.77	82.9
Omaha	1,524,991	24,933	61.16	30,506	49.09	81.7
Albany	576,988	10,152	56.83	12,878	44.80	78.0
Rochester	1,679,747	28,755	58.41	36,843	45.59	78.1
Paterson	786,134	18,676	42.09	22,884	34.35	82.5
Columbus	1,513,798	26,547	57.02	31,093	48.68	85.3
Dayton	842,921	17,654	47.47	21,443	39.39	82.3
Portland, Oreg.	2,051,336	29,334	69.93	40,237	50.98	72.9
Providence	1,493,948	29,536	50.58	38,067	39.24	77.5
Nashville	457,469	13,389	34.16	17,859	25.61	75.5
Richmond	874,449	20,230	43.22	26,243	33.32	77.0
Seattle	2,433,055	33,905	71.76	41,430	54.76	76.5
Spokane	943,872	15,149	62.30	19,906	47.41	76.1

This table shows that during 1917–1918 Memphis expended on her schools $51.82 per pupil in average daily attendance for the entire year, or $36.38 per pupil reckoned on the basis of net enrollment. These amounts give her the rank of No. 10, counting from the city expending the smallest sum in the one case, and No. 12 in the other case. That is to say, in the group of 24 cities there are 13 expending more than Memphis per pupil on the basis of average daily attendance and 11 cities expending more when the net enrollment is considered as the basis of calculation.

In comparing the Memphis expenditure with the average expenditure of the other cities of the list we find that on the basis of average daily attendance Memphis fell short of the average for the cities, which was $54.38, by $2.56 per pupil, while on the basis of net enrollment the difference is still greater, being $5.65 per pupil, the average for the cities of the list being $42.03 per pupil.

This difference in the rating of Memphis in comparison with the other cities of the list, when the two bases are considered, is due to the fact that there is a lower percentage of the net enrollment in attendance in Memphis than in the other cities, as a reference to the last column of the preceding table will show. With the exception of Birmingham, Memphis has the poorest record of any of the cities in respect to the percentage of net enrollment in average daily attendance.

THE MEMPHIS TAX RATE.

Almost invariably when effort is made to secure increased maintenance for the schools of Memphis the general property tax of the city is pointed to as a sufficient answer, the implication, of course, being that the tax rate is already too high. It will be of interest to consider this question in the light of the facts:

Referring once more to the Census Bureau's figures, this time turning to Table 32, we find that the property owner of Memphis paid for all purposes during 1917 a tax of $29.70 on every $1,000 of assessed valuation. Of the remaining 218 cities listed by the Census Bureau, we find that the general tax for all purposes of 152 of them fell below that of Memphis, while that for 66 cities was greater. In this particular, then, Memphis seems to be somewhat above the average of the list in the tax rate levied. But this, it must be made clear, does not take into account the great variation which obtains among cities in respect to the proportion which the assessed values bear to the actual values, for in some cities the assessed value is no more than 25 per cent of the real value, while in other cities property is assessed at its full market value. For example, the assessment rolls of Memphis are made out on the basis of 60 per cent of the estimated actual values for city taxes and 50 per cent for State and county taxes. To compare rates among cities fairly, therefore, they must be corrected on the basis of actual property values. This the Census Bureau has done, showing that the Memphis rate, corrected in this manner, is $17.08. Comparing this figure with the rates of the other cities, corrected in the same way, we find that the rank of Memphis changes. Instead of there being only 66 cities outranking her in tax rate, as is true when the rate based on assessed values is considered, she is now outranked by 127 cities, with only 91 cities of the entire list of 219 having a lower true general tax rate. That is, when rates are made comparable, it is seen that Memphis, instead of having a higher rate than the average city, is found to be considerably below the average.

And when the city tax rates alone, corrected as before, are compared, we find that Memphis with her corrected city rate of $9.77 drops in her rating to No. 24 from the bottom of the list.

It is clear, then, that the true tax rate (State, county, and city) of Memphis, in comparison with other cities, is not high; it is low.

THE PER CAPITA VALUE OF MEMPHIS PROPERTY.

Memphis is a rapidly growing city with rising property values. It will be of interest in this connection to compare Memphis with the other cities of the Census Bureau's list in respect to the per capita property value. Table 32, *Financial Statistics of Cities*

(1917), again gives the true value, estimated by the city officials themselves, of the property in 219 cities of 30,000 population or more which is subject to general property tax. This estimate is given in terms of per capita of population, so that a comparison on exactly the same basis among these cities is easily made.

The facts are that Memphis, with a per capita true value of $1,288, as stated therein, exceeds that of all the cities of the list except 77.

It is clear, then, when viewed from every possible angle, that Memphis is much below the average of American cities in the amount she expends upon the education of her children and far above the average in her financial ability to maintain her schools. Furthermore, it is perfectly clear that Memphis is well able financially, in comparison with other cities, to pay enough to make her school system the equal of any system in this country. Moreover, there can be no doubt of her financial ability to carry into execution the school program which this survey staff has outlined, in the doing of which Memphis will not exceed the financial limits under which cities progressive in matters educational are working.

ATTITUDE OF THE TAXPAYERS OF MEMPHIS.

It is confidently believed that when these facts are fully understood by the taxpayers of Memphis each will feel as does the writer of the following letter, which appeared recently in an Oakland, Calif., paper:

A LETTER FROM A TAXPAYER.

[From Our Public Schools, Oakland, Calif.]

I am a taxpayer. At this time of year taxpayers feel the stress of tax payments, and many of them make critical remarks because of this stress—I among them. In this frame of mind it occurred to me that I would like to know where the tax money goes; so I proceeded to figure. My home is a comfortable one, perhaps a little better than the average. The real estate is assessed at $850, the improvements at $750, and my personal property at $450. My total city taxes for the year are $33.21, at a rate of $1.84. My total county taxes are $44.75, at a rate of $2.21. My annual city taxes are apportioned approximately as follows:

Police department	$4.21
Fire department	4.95
Street lighting	1.81
Health department	.90
Streets	4.54
Harbor	2.15
City Hall and Auditorium upkeep	.95
Public parks	1.50
Playgrounds	.82
Public Library	1.22
*Bonds for City Hall, parks, waterfront, Auditorium, and city schools	2.13
City officials' salaries and expenses	2.97
**Miscellaneous	5.08
Total	33.21

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*The expense for these bonds would be about three times that total, except that other revenues for the city are applied on bond redemption.

**This includes woodyard, pound, garbage collections, pensions, insurance, charities, service bonds, etc.

This tabulation set me to thinking. It is worth more than $5 a year for me to have a fire house located not far from my home. It is worth a good deal more than $4.54 a year to have good streets, or $1.50 a year to have our beautiful parks, and $1.22 a year to have our public library and branches. I pay as much for my daily morning paper as I do for police and fire protection. My monthly bill for house lights is double my yearly bill for street lighting. I pay less than a dollar a year for the health department that has just carried Oakland through an epidemic much more successfully than is the case in other places.

My annual county tax bill, amounting to $44.75, is apportioned, approximately, as follows:

Salaries of regular county officials	$2.84
Expenses of county offices	3.36
*Charities and corrections	6.19
Bridge bonds	.51
Miscellaneous	3.28
County high schools	3.85
County elementary schools	5.47
Oakland high schools	5.47
Oakland elementary schools	6.08
Oakland kindergartens	1.22
School buildings	3.04
School building bonds	3.44
Total	44.75

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*This includes $3.80 for permanent buildings for hospitals.

I do not know whether all the offices which we now have are needed, or whether some matters could be done more economically, but we need the courts of justice and their officials. The title to my property is recorded and protected by county officials. For this and many other things I pay $6.20 per year. There is a large item for charities and corrections, amounting to $6.19 a year. For this amount the county is taking care of hundreds of unfortunates, for any one of whom a person more heartless than I would subscribe an amount as large as the total contributed to the county.

The schools are a big item—taken altogether, the largest item on the tax list. I pay $9.20 a year for high schools in Alameda County and Oakland, $11.40 for elementary schools, $1.20 for kindergartens, and $6.40 for school buildings. Therefore my total taxes for schools are $28.20. I understand, however, that good high-school education costs $100 or more per pupil per year. Private schools charge more. I understand that elementary education costs $50 per year per pupil.

I have a child in high school whom I desire to have educated and whom the community desires to have trained for American citizenship. THE COMMUNITY SPENDS MORE ON HIS EDUCATION THAN THE TOTAL OF MY COUNTY AND CITY TAXES. The cost of two children in elementary school is greater than my total annual taxes. Hence, I am unable to locate any item on which I feel sure that I am expending too much. The big business men may pay more taxes than I, but I am willing to buy goods from them in order that they may pay their taxes, and I am more willing now to patronize men who help support our institutions. All I can ask is that we get full service out of every dollar.

An Oakland Taxpayer.

6. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

1. Amend the charter to provide for an unpaid board of education of seven members whose terms of office shall be six years, except that at the first election two members shall be elected for two years, two

for four years, and three for six years, and that after the first election there shall be an election every two years for either two or three members, as the case may be.

2. Candidates for election to the board should be nominated by a committee made up of representative men and women chosen for the purpose from the various civic bodies in the community which are working in a nonpolitical way for the progress of the city.

3. Remove the charter limits on the salary of the superintendent and make it permissible for the board to elect him for any term of years not exceeding five.

4. Make the superintendent the executive head of the school system in reality and hold him responsible for results. The board should refrain from executing details, concerning itself only with defining general policy.

5. Raise the qualifications required of teachers in the elementary schools to a two-year course at a State normal and graduation from a four-year high school, or the equivalent to these. Require college graduation or its equivalent of all high-school teachers.

6. Adopt a plan for eliminating the inefficient and the inadequately prepared teacher.

7. Abolish the "aid-teacher" system.

8. Arrange with local Negro institutions to give two years of professional training to graduates of colored high schools who desire to teach in the Memphis schools.

9. Gradually build up an adequately trained supervisory staff and organize the high schools on a department basis.

10. Provide for a supervisor of colored schools.

11. Urge teachers and principals to improve their work, and give tangible recognition to those who do, and drop from the department those who do not.

12. Place the salary schedule of the department on such a basis that competent people will be attracted to and be held in the corps, and provide for promotions to those who are increasingly efficient.

13. When the requirements of the colored employees are put upon the same basis as that of white employees, pay them the same wages.

14. Abolish the plan of paying the janitors a lump sum for the care of buildings, and provide sufficient help direct. Readjust the wage scale for both white and colored janitors on the basis of some such plan as the Boston plan, and relieve them of the responsibility for the discipline and control of children.

15. Provide a series of lectures and discussions for the janitors of the department which will serve to increase the efficiency of their work.

16. Abolish the system of promotions which is based on formal examinations and introduce the plan by which the class itself determines its own standards of promotion by reason of the quality of the work it does.

17. Based on 1917–18 figures, the proportion of the total expenditure of Memphis which went to the schools will have to be increased nearly 20 per cent to reach the average proportionate school expenditures of the cities of this country, and of 219 cities only 20 ranked lower than Memphis in this particular. Of the 219 cities, 185 expended more on their schools per capita of population than did Memphis, 25 of them expending more than double the amount. Of 24 cities considered for 1917–18 relative to expenditures per pupil in average daily attendance, Memphis ranked No. 10 from the bottom, falling short of the average amount expended by $2.56 per pupil. Reckoned on net enrollment, Memphis ranked No. 12 in the list, falling short of the average in this particular by $5.65 per pupil. In respect to the general tax rate of 1917–18, of 219 cities Memphis had a lower corrected rate than 127 of the cities. When the city tax rates alone are compared, it is found that 195 cities had a higher corrected rate than Memphis. Again, Memphis, with a per capita true property value of $1,288, exceeded that of all the cities of the list except 77. It is clear, therefore, that Memphis is below the average American city in the amount expended upon her schools, and that she is financially able to carry into execution the program which this survey staff recommends.

It should also be remembered that no American city supports its schools as well as it could or should. Memphis should ask only, "What amount of money is necessary to make her schools fully efficient?"

CHAPTER III. THE BUILDING PROBLEM.

CONTENTS.—I: The Problem—A farsighted building program needed; the school population; where congestion is greatest; one method of relief; a second method of relief; the work-study-play plan; the principle of the multiple use of school facilities; a building program based on the work-study-play plan; repairs needed; summary. II: General recommendations—The selection of sites; lighting and window space; cloakrooms; blackboards; furnace rooms; heating and ventilation; drinking fountains; toilets; janitor service; suggestions for individual buildings.

I. THE PROBLEM.

A FARSIGHTED BUILDING PROGRAM NEEDED IN MEMPHIS.

The city of Memphis has been unusually farsighted in planning for certain phases of its material development, such as, for example, the inauguration after the epidemic of 1878–79 of the pure water supply system, by Col. Waring; the sewerage system; and the recent development of the Farm Bureau and the Alluvial Land Association, both of which organizations are working with a view not only to the present prosperity of Memphis, but for its future development as the great distributing center of the central South. Everything that has to do with the business life of the city is planned on the assumption that Memphis is to be a metropolis. Even the office buildings are put up on a scale which anticipates that Memphis will become an increasingly important trade center. But the schools are planned as though it were assumed that Memphis is to be a small town or village.

What Memphis needs primarily, in order to solve her school building problem, is a realization of the fact that providing for the present and future growth of school population is an engineering problem that demands the same deliberation and farsighted planning which she has so well displayed in other phases of the city's life. What the board of education and people of Memphis need to ask themselves is not whether one group of people want a building more in one section of the city than another group in another section, but rather, What is the present school population of Memphis? How much has it increased in the last 8 or 10 years? Where is the congestion greatest? In what direction is the tide of population moving? What kind of buildings should be put up and in what parts of the city in order to provide for growth as well as for present enrollment? How much playground space is needed? What kind of activities should be provided in the school buildings in order that the children of Memphis shall grow to be healthy, intelligent, self-reliant, and worthy to carry on the traditions of the city? Considering the funds available for building purposes in the present and in the immediate future, what items in a comprehensive building program should be taken up first, and what items can be left for future building appropriations?

Believing that the board of education and the people of Memphis wish to approach their school-building problem in a farsighted manner which will solve their problem for a number of years to come, the survey staff has undertaken to answer the above questions and to outline a building program which will meet the most pressing needs of the present, and also provide for the future growth of the school population extending over a period of years.

THE SCHOOL POPULATION OF MEMPHIS.

It is difficult to ascertain the exact number of children of school age in Memphis. The school census has not been taken during the past four years. The department of education does not give the number of children of school age. It gives the number of children enrolled, and records the figures under three different headings. First, there is the *gross enrollment*, which includes all children whose names have been entered on the roll of all schools during the year. This means that the same child's name may appear in two or three schools. Second, there is the *net enrollment*, which includes all the children entering any school during the year but excludes transfers. Third, there is what is called the *number belonging*, which means all those who have not been absent more than a certain number of days in succession.

If the purpose of the public school system is to give an education to all children in a given neighborhood, then obviously the "net enrollment" of any school rather than the "number belonging" more nearly represents the number of children which that school should reach. The "number belonging" may be much smaller than the "net enrollment" because it does not take into account the number of children who attended for a time and then dropped out. In fact, a discrepancy between the "net enrollment" and the "number belonging" may be significant as showing that the school is not reaching and holding the total school population of its district.

The nearest approximation to a correct estimate of the children of school age in the city is obtained by applying the ratio of children of school age to the total population, as given by the 1910 United States Census, to the estimated population for 1917, as given in the report called the Financial Statistics of Cities. According to the Census of 1910,[1] the total population of Memphis in 1910 was 131,105. The total number of children 6 to 14 years of age was 17,444, or 13.3 per cent of the total population. According to the Financial Statistics of Cities[1] of the United States Census, the estimated population of Memphis in 1917 was 148,995. If the proportion of children (6 to 14 years of age) to the total population was the same in 1917 as in 1910, then the total number of children within this age group in 1917 was 19,816.

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[1] U. S. Census, 1910, Statistics of Tennessee, p. 612.

The net enrollment in all day elementary schools in 1918–19 was 19,460 (see Table 29). This is approximately the number of children of 6 to 14 years of age which the estimate of the Financial Statistics of Cities would lead us to expect.

Inasmuch as a building program must make provision for housing all children of school age, it is obvious that the net enrollment is a safer figure to use as the basis for such a program than the "number belonging" or the "average daily attendance."

The table which follows gives the significant facts regarding the growth of the school population.

TABLE 29.—*Original capacity of 31 day elementary school buildings—Net enrollment for 1911–12 and 1918–19—Per cent increase in enrollment, 1911–1919—Number of pupils in excess of seating capacity—Additional capacity needed.*

Names of schools.	Original capacity on basis of 45 pupils per class.	Net enrollment in—		Excess of pupils over seating capacity of school.	Number of regular class-rooms now available.	Total class-rooms required for present enrollment.	Excess of class-rooms required over those available.	Per cent increase in enrollment, 1911–1919.
		1911–12	1918–19					
WHITE SCHOOLS.								
The 8 most congested white schools:								
A. B. Hill	540	787	993	453	12	23	11	26.2
Bruce	585	722	922	337	13	21	8	27.7
Cummings	360	574	677	317	8	15	7	18.0
Idlewild	360	520	741	381	8	17	9	42.5
Lauderdale	540	822	921	381	12	21	9	12.0
Madison Heights	360	320	447	87	8	10	2	39.7
Maury	585	525	671	86	13	15	2	27.6
Peabody	360	392	675	315	8	15	7	72.2
Total	3,690	4,662	6,047	2,357	82	137	55	30.0
Other day elementary white schools:[2]								
Gordon	360	423	474	[3] 114	8	11	3	12.1
Guthrie	675	[4] 406	634	41	15	14	[5] 1	56.2
Leath	765	782	732	33	17	17	....	[3] 6.0
Lenox	450	311	387	63	10	9	[5] 1	24.4
Merrill	630	548	688	88	14	16	2	25.5
Pope	540	720	738	198	12	15	3	2.0
Riverside	720	761	857	137	16	19	3	12.6
Rozelle	675	142	573	102	15	13	[5] 2	303.5
Smith	540	697	495	45	12	11	[5] 1	[3] 29.0
Snowden	360	283	430	70	8	10	2	52.0
St. Paul	270	435	419	96	6	10	4	[3] 4.0
Open Air	45	....	24	21	1	1	....	....
Total	6,030	5,508	6,451	421	134	146	12	17.1
Total day elementary white schools	9,720	10,170	12,498	2,778	216	283	67	22.9

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[1] Financial Statistics of Cities, 1917, Bureau of the Census, p. 16.

[2] Church Home and Leath Orphanage are excluded because the board of education does not supply rooms for these schools; and Jefferson Street School is excluded because it is a special school.

[3] Decrease.

[4] Enrollment of 1914–15, the year the school was opened.

[5] Surplus classroom capacity.

TABLE 29.—*Original capacity of 31 day elementary school buildings—Net enrollment for 1911–12 and 1918–19—Per cent increase in enrollment, 1911–1919—Number of pupils in excess of seating capacity—Additional capacity needed*—Continued.

Names of schools.	Original capacity on basis of 45 pupils per class.	Net enrollment in—		Excess of pupils over seating capacity of school.	Number of regular class-rooms now available.	Total class-rooms required for present enrollment.	Excess of class-rooms required over those available.	Per cent increase in enrollment, 1911–1919.
		1911–12	1918–19					
COLORED SCHOOLS.								
The 5 most congested colored schools:								
Carnes	540	767	734	[1] 194	12	17	[2] 5	[1] 4.3
Charles	90	118	87	3	2	2	....	[1] 26.3
Kortrecht High School [3]	540	265	408	132	12	9	[2] [4] 3	54.0
La Rose	360	1,054	1,190	830	8	27	19	12.9
Virginia Avenue	495	684	967	472	11	22	11	41.3
Total	2,025	2,888	3,386	1,361	45	77	32	17.2
Other day elementary colored schools:								
Caldwell	180	[5] 146	258	78	4	6	2	76.7
Grant	675	729	870	195	15	20	5	19.3
Greenwood	360	437	546	186	8	12	4	25.0
Klondike	360	450	384	24	8	9	1	[1] 14.7
Kortrecht Grammar	630	861	814	184	14	18	4	[1] 5.5
Porter	495	739	704	209	11	16	5	[1] 4.7
Total	2,700	3,362	3,576	876	60	81	21	6.3
Total day elementary colored schools	4,725	6,250	6,962	2,237	105	158	53	11.3
Grand total all day elementary schools	14,445	16,420	19,460	5,015	321	441	120	18.5

[1] Decrease.

[2] See note on p. 113.

[3] Kortrecht High School is included because part of its enrollment is made up of seventh and eighth grade pupils.

[4] Surplus classroom capacity.

[5] Enrollment for 1913–14, the year the school was opened.

SCHOOL CONGESTION GREATEST IN THIRTEEN ELEMENTARY BUILDINGS.

As usually happens, however, this school population is not evenly distributed throughout the city, but has congregated in certain sections which are growing more rapidly than other sections. For example, there are 31 day elementary schools in the city, but approximately one-half of the total elementary school population is found in 13 schools, white and colored, situated in the southern and southeastern sections of the city. Furthermore, these 13 schools, as might be expected, are also the most crowded schools in the city (see Table 29); that is, with the year just closed (1918–19), the net enrollment in the 31 day elementary schools (white and colored) was 19,460, whereas there was a normal seating capacity for but 14,445. This means that there were 5,015 children in excess of the normal seating capacity of these schools. But the significant facts, from the standpoint of a building program, are that 9,433 of the total 19,460 elementary school pupils were in the 13 schools in the southern and southeastern sections; and, moreover, of the 5,015 children in excess of seating capacity in all elementary schools, 3,718 were in these 13 schools, 2,357 in the 8 white schools and 1,361 in the 5 colored schools.

In other words, approximately 50 per cent of the total enrollment in the 31 elementary schools is found in these 13 schools, and 74.1 per cent of all the children in excess of seating capacity is also found in these schools. These 13 schools are: *White*—A. B. Hill, Cummings, Lauderdale, Bruce, Idlewild, Madison Heights, Peabody, and Maury; *colored*—Carnes, Charles, Kortrecht High School, La Rose, and Virginia Avenue.[1] Again, the extent to which congestion is concentrated in these 13 schools is shown by the fact that whereas only 12 additional classrooms are needed in the 12 least congested white schools, 55 additional classrooms are needed in the 8 most congested white schools; and whereas 21 additional classrooms are needed in 6 colored schools, 32 are needed in the 5 most congested colored schools.[2]. (See Table 29.)

There are two chief methods by which this school congestion can be relieved, both of which are submitted for the consideration of the board of education, with a summary of the buildings, sites, and equipment required, and the total cost of such items under each method.

ONE METHOD OF RELIEVING SCHOOL CONGESTION.

The first method would attempt to solve the situation by the usual procedure of adding classrooms or new buildings without changing the traditional school organization. All children would be expected to be in school seats at the same time, and if provision were made for special activities, such as shops or cooking rooms, the classrooms would remain vacant when such facilities were in use. If such special facilities were provided, therefore, they would have to be in addition to a classroom for every class. Let us consider the cost of meeting the school congestion problem of Memphis by this method.

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[1] Estimates of the number of classrooms needed are based on the assumption that no class should have more than 45 pupils.

[2] Although the Charles and Carnes Schools at present have no classes in excess of classrooms, yet they are included in this group because the general sanitary conditions are such that the classrooms should not be used unless relief is afforded. The Charles School is not fit for occupancy; and a morgue directly back of Carnes makes the school unfit for children unless the morgue is removed or a new site chosen. Kortrecht High School has been included because it is a combination of elementary and high school, and although there are excess classrooms, the building is so situated and of such a character that the children should be transferred to a new building at the earliest possible moment. In other words, conditions in these buildings are so deplorable that the classrooms should not be considered as "available," and additional accommodations should be provided for them in any adequate building program.

In order to accommodate the children in excess of seating capacity in the 8 white and 5 colored schools, 87 additional classrooms are needed (55 for the white schools, and 32 for the colored schools). (See Table 29.)

Without knowing the local conditions in Memphis, it is impossible to give the exact cost of these classrooms, but, inasmuch as the Rozelle School cost $150,000 (which means $10,000 per classroom), and inasmuch as the cost of building has gone up since its erection about 60 per cent, we should estimate the classroom cost at about $16,000. On this basis alone, an immediate expenditure of $1,392,000 would be necessary in order to furnish the 87 additional classrooms needed to relieve the most pressing congestion. This amount, however, would not furnish any of the modern educational facilities such as shops, cooking rooms, and laboratories.

Neither, it is clear, would this amount provide for future growth. Enrollment in the 8 congested white schools alone has increased 30 per cent during the past 8 years (see Table 29), while in the 5 colored schools considered there has been in the same period a growth of 17.2 per cent. If these rates continue during the next 8 years, obviously an increased population aggregating 1,814 white and 447 colored children, or a total approximating 2,261, must be housed in these 13 schools alone. On the basis of 45 children to a classroom, 51 classrooms costing approximately $816,000 would be required to care for this increase. Therefore, to the original figure of $1,392,000 this item of $816,000 must be added, making a total of $2,208,000 which would be required.

But providing accommodations for the school population is not merely a mathematical matter of adding classrooms; it is a question of where and how they can be added. Some of the school buildings in Memphis are so constructed that they can not be readily added to; others have not sufficient ground to admit of additions; others are in parts of the city where it would not pay to spend any large sums of money on them. For example, Cummings has not enough ground for additions, and the building is old and badly constructed. These facts are true also of Madison Heights. It is a question also whether it would pay to add to a building like the Idlewild. Again, the population is increasing so rapidly in the neighborhood of Peabody, and that school has such a small seating capacity that it would seem to be a shortsighted policy to try to meet that situation by merely putting up an addition. It is also a question whether it would pay to put up additions at Lauderdale, as there is apparently a general feeling that this district is likely to become a colored district, in which event the school would probably be turned over to colored children.

That is to say, an accurate estimate of the amount needed can not be gotten by considering merely the aggregate number of classrooms which will be required; it can be secured only by analyzing the situation at each school. This detailed analysis follows:

TABLE 30.—*Estimated cost of meeting present school congestion and providing for future growth under the present plan of organization.*[1]

WHITE SCHOOLS.

Cummings and *Lauderdale:*[2]			
Present enrollment		1,598	
Growth for 8 years at 15 per cent		240	
Total enrollment to provide for		1,838	
Total classrooms needed		41	
Cost of new building of 41 classrooms at $16,000			$656,000
Site			20,000
Peabody:			
Present enrollment		675	
Growth for 8 years, at 72.2 per cent		487	
Total enrollment to provide for		1,162	
Total classrooms needed		26	
Present number of regular classrooms		8	
Additional classrooms needed		18	
First alternative.			
Erection of new building of 26 classrooms			416,000
Site			20,000
Second alternative.			
Annex of 18 classrooms on present site			288,000
Additional land			20,000
Idlewild and *Madison Heights:*			
Present enrollment		1,188	
Growth for 8 years at 41 per cent		487	
Total enrollment to provide for		1,675	
Total classrooms needed		38	
Present number regular classrooms—			
Idlewild	8		
Madison Heights	8		
Total	16		
First alternative.			
(Combine Idlewild and Madison Heights in new building.)			
Erection of new building for both schools of 38 classrooms			608,000
Site			20,000

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[1] Cost estimated on the basis of $16,000 per classroom unit.

[2] Both buildings should be abandoned and the two schools combined in a single new building to be erected to the south of the present sites.

Second alternative.

(Send half of Madison Heights to Idlewild and half to Maury.)

Madison Heights:			
Present enrollment		447	
Growth for 8 years at 39.7 per cent		177	
Total enrollment to provide for		624	
Idlewild (take half of Madison Heights):			
Present enrollment		741	
Growth for 8 years at 42.5 per cent		314	
Total enrollment to provide for		1,055	
Total classrooms needed		24	
Present number regular classrooms		8	
Number classrooms needed for Idlewild	16		
Plus half of Madison Heights	7		
Total needed	23		
Cost of annex of 23 classrooms for Idlewild			$368,000
Additional land			20,000
Maury (take half from Madison Heights):			
Present enrollment		671	
Growth for 8 years at 27.6 per cent		185	
Total enrollment to provide for		856	
Total classrooms needed		19	
Present number regular classrooms		13	
Number classrooms needed for Maury	6		
Plus half of Madison Heights	7		
Total	13		
Cost of annex of 13 classrooms for Maury			208,000
Bruce.			
Present enrollment		922	
Growth for 8 years at 27.7 per cent		255	
Total enrollment to provide for		1,777	
Total classrooms needed		26	
Present number regular classrooms		13	
Cost of annex of 13 classrooms			208,000
A. B. Hill.			
Present enrollment		993	
Growth for 8 years at 26.2 per cent		260	
Total enrollment to provide for		1,253	
Total classrooms needed		28	
Present number regular classrooms		12	
Number additional regular classrooms needed		16	
Cost of annex of 16 classrooms			256,000
Additional land			20,000

COLORED SCHOOLS.

Carnes:

Present enrollment	734	
Growth for 8 years at 4.3 per cent decrease[1]		
Total enrollment to provide for	734	
Total classrooms needed	17	
Present number regular classrooms	12	
Total needed	5	
Cost of annex of 5 rooms		$80, 000
Additional land		6, 000

Charles:

Present enrollment	87	
Total classrooms needed	2	
Cost of 2 portables, modern type, at $1,000 and equipment ($1,000)		3, 000

Kortrecht High School:

Present enrollment	408	
Growth for 8 years at 54 per cent	220	
Total enrollment to provide for	628	
Total classrooms needed	14	
Cost of new building of 14 rooms		224, 000
Site		20, 000

La Rose:

Present enrollment	1, 190	
Growth for 8 years at 12.9 per cent	154	
Total enrollment to provide for	1,344	
Total classrooms needed	30	
Present number regular classrooms	8	

First alternative.

Cost of new building of 30 classrooms	480, 000
Additional land	20, 000

Second alternative.

Cost of annex of 22 classrooms	352, 000
Additional land	20, 000

Virginia Avenue:

Present enrollment	967	
Growth for 8 years at 41.3 per cent	399	
Total enrollment to provide for	1, 366	
Total classrooms needed	31	
Cost of new building of 31 classrooms		496, 000
Site		20, 000

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[1] The decrease in the school is not considered, as it may be due to bad conditions surrounding the school.

TABLE 31.—*Summary of estimated cost of meeting present school congestion and providing for future growth under the present plan of organization.*

WHITE SCHOOLS.

First alternative.		*Second alternative.*	
Cummings and Lauderdale:			
New building	$656, 000	New building	$656, 000
Site	20, 000	Site	20, 000
Peabody:			
New building	416, 000	Annex	228, 000
Site	20, 000	Additional land	20, 000
Idlewild and Madison Heights:			
New building	608, 000	Annex, Idlewild	368, 000
Site	20, 000	Additional land	20, 000
		Annex, Maury	208, 000
Bruce:			
Annex	208, 000	Annex	208, 000
A. B. Hill:			
Annex	256, 000	Annex	256, 000
Additional land	20, 000	Additional land	20, 000
Total	2, 224, 000	Total	2, 004, 000

COLORED SCHOOLS.

Carnes:			
Annex	$80, 000	Annex	$80, 000
Additional land	6, 000	Additional land	6, 000
Charles:			
Movables	3, 000	Movables	3, 000
Kortrecht High School:			
New building	224, 000	New building	224, 000
Site	20, 000	Site	20, 000
La Rose:			
New building	480, 000	Annex	352, 000
Additional land	20, 000	Additional land	20, 000
Virginia Avenue:			
New building	496, 000	New building	496, 000
Site	20, 000	Site	20, 000
Total	1, 349, 000	Total	1, 221, 000
Grand total	3, 593, 000	Grand total	3, 225, 000

DIFFICULTY OF RELIEVING CONGESTION.

At the present time the board of education has only $500,000 available for building purposes, although a request for an additional $2,000,000 is contemplated. Obviously, under the traditional plan of school organization, this amount falls a million dollars short of the amount needed to relieve the present congestion and to provide seating capacity for the estimated growth of these 13 schools during the next eight years. As for the expenditure of the $500,000, it is important that at least $50,000 be set aside for repairs to present buildings.

Let us consider what could be done with this $500,000 in relieving the present congestion only.

First, it would be possible to put up an annex of 7 rooms at Cummings ($112,000 and $20,000 for land) and an annex of 9 rooms at Lauderdale ($144,000 and $20,000 for land). This would be a shortsighted policy, however, and a waste of money, since Lauderdale may be abandoned in the future as a school for white children, and Cummings is an old building, so situated that it would not pay to add to it.

Second, annexes could be put up at A. B. Hill (11 rooms, $176,000 and $20,000 land), and at Bruce (8 rooms, $128,000). But the growth in these schools is such that, in order to take care of future enrollment, twice these amounts is needed. Therefore, the board of education would have to provide additional annexes for these two schools by the end of eight years, or else have as bad a congestion problem on their hands as obtains now.

Third, it would be possible to put up annexes at Idlewild (9 rooms, $144,000 and land $20,000), and Peabody (7 rooms, $112,000 and land $20,000) and a new building for Madison Heights (10 rooms, $160,000 and site $20,000). This would be an extremely shortsighted policy, however, since Idlewild, Madison Heights, and Maury should be considered together in order to relieve congestion adequately; and, also, by the time the new building for Madison Heights could be erected, the enrollment would be, at the present rate of growth, greater than the capacity. Moreover, the addition at Peabody would take care merely of the present congestion, whereas the increased enrollment in that school of 72.2 per cent in the past eight years and the trend of population in that direction show how inadequate such an addition would be.

Clearly, then, if the present form of school organization be adhered to and the attempt be made to meet the building problem by erecting new buildings and putting up annexes to the present buildings, in order that classrooms may be provided for every class, a sum approximating three and one-half million dollars ($3,573,000) will be required. It is also clear that with no more than $500,000 available within two years, $50,000 of which, at least, must be devoted to repairs, the board is confronted with a well-nigh hopeless task.

Moreover, it is to be borne in mind that this large expenditure of three and one-half million dollars would not provide for any junior high schools, or a new vocational school or additions to the present Vocational School building, nor would it provide such modern educational facilities as science rooms, shops, drawing and music studios, nature study rooms, and swimming pools, which are now generally recognized as necessary parts of modern elementary public schools. Such facilities are particularly important in a growing city like Memphis. As we have pointed out in the first chapter, it is evident that if the city is to grow and prosper both commercially and in civic welfare, it is necessary that the children have a good foundation of physical health; that they have a practical knowledge of modern science, which is the very root of the agricultural and industrial life on which Memphis is being built up; that they have the knack with tools and the mechanical ability which the earlier generation had, and which is the rightful heritage of every normal boy and girl; and that they be given the opportunity to develop their power of expression in music, dramatics, and social organization, and to cultivate a taste for wholesome recreation.

For Memphis to plan a building program on the basis of providing merely classrooms for her school population, and to ignore her obligation to furnish such modern educational facilities as shops, laboratories, and nature study rooms, would be to fail in her duty to the rising generation, and to the best interests of the city. On the other hand, to provide such facilities in addition to the three and one-half millions dollars necessary to meet congestion would represent an expenditure difficult for Memphis to meet under present conditions.

Memphis is not peculiar in respect to her school congestion situation. Cities all over the country, even before the war, were having the greatest difficulty in meeting the increase in school enrollment. The rapid growth of population and the crowded conditions make the congestion and financial problems extremely difficult of solution on the traditional plan of a reserved seat for every child, as the Memphis situation so well illustrates. One peculiarly trying feature of the situation is that often there is bad congestion in one part of the city while there are surplus classrooms in another section. For example, in Memphis there is bad congestion in eight white schools, and yet there are surplus classrooms and a decreasing enrollment in six other white schools in other parts of the city. To keep pace with growth, therefore, merely on the basis of adding classrooms where they are needed at a given time, presents difficulties both administrative and financial. But when to this problem is added the obligation to provide the other necessary facilities such as shops and laboratories, auditoriums and playgrounds, the problem assumes formidable proportions.

Indeed, were this plan the only alternative the situation which the board is now facing would be a most discouraging one. Fortunately, however, there is another alternative which suggests the way out.

A SECOND METHOD OF MEETING THE SCHOOL CONGESTION PROBLEM.

A second possible method of solving the school building problem of Memphis is what is commonly known as the work-study-play plan now in operation in some 30 or 40 cities in this country. The chief advantages of this plan for Memphis are (1) that it offers suggestions for meeting the congestion problem within the financial ability of the city and (2) it also makes provision for such educational facilities as auditoriums, gymnasiums, shops, laboratories, drawing and music studios, nature study rooms, and swimming pools, which are now considered a necessary part of a modern school system.

This plan developed in an attempt to solve the peculiar school problems created by the modern city. It grew out of a recognition of the fact that the rapid growth of cities makes the educational problem far more difficult than formerly; in fact, has created a new school problem.

The education of all children has, of course, always consisted of work and study and play, but formerly the farm and small shop supplied the opportunity for work and play, and the school needed to make provision only for academic study. In those days, the environment of the average boy and girl furnished an education in wholesome activities that developed intelligence, initiative, and industrious habits. But during the past 50 years has come the growth of the medern city, until now half the population of the country is concentrated in them. And the city with its overcrowding, its factories, its office buildings, apartment houses and tenements which go up on all available vacant lots, is depriving children of the opportunity for the healthy, wholesome work and play which are essential elements in their education. The city home or apartment, unlike the farm, with its many necessities of "learning by doing" can offer few educational opportunities in the way of healthful work which develops the ability to think by attacking problems to be solved. There is no planting and harvesting to be done; few, if any, animals are to be taken care of; and it is a rare city home that has a workshop or laboratory. Yet children, until recently, have received much of their education through the opportunity to handle tools, to take care of animals, and to experiment in making and using things. But the city not only fails to educate children in the right direction; it educates them in the wrong direction, for the street, with its dangers to the physical and moral life of children, too often becomes their only playground; and street play means education, not in health and strength and wholesome living, but precocious education in all the vicious side of a city's life.

For these reasons, it has come to be recognized that the city school must not only supply the opportunity for study in good classrooms under wholesome conditions, but it must also return to the children the opportunity for the healthful work and play which the home can no longer supply.

Memphis provides an excellent illustration of these new educational problems presented by city conditions, because Memphis is apparently in the transition stage from a comparatively small city to what appears likely to become one of the largest cities of the South. The present generation of its men and women grew up under the conditions of a town where there was plenty of play space, and sufficient opportunity for work in and about the home to keep them wholesomely occupied, and to develop the initiative and ingenuity and ability to think, which is now such an asset in the development of the city. These men remember when a large part of the eastern section was an unoccupied area, and when there was little difficulty in finding playground space for a game of ball. Yet a few years ago the question of playground space became such a serious problem that a survey commission was called in to point out how and where to save play space from the encroachments of a rapidly growing city.

Again, these men and women who had the advantages of growing up in a simpler environment are already deploring the fact that "children in these days do not seem to know how to think"; "they don't know how to work"; "they have no initiative, no mechanical ability, nor resourcefulness." The implication is that there is some moral lack in the children. But, as a matter of fact, the city environment, whether at home or at school, does not tend to provide for children the practical, everyday problems to be solved which develop these qualities. Hours spent at a school desk do not develop either initiative or mechanical ability; and a love of good workmanship and resourcefulness in solving problems do not develop from reciting lessons merely, but from the opportunity to create things and to solve problems that have meaning. Another illustration of how the conditions of city life are failing to give the training which is considered necessary in the development of the city is the reply of a leading citizen, who, when asked what he thought the school should do, said, "Give the children a knowledge of science, so that they can develop more by-products in our industries"; and "The whole life of Memphis depends upon the agricultural development of the surrounding country. Whether a boy is to be a farmer or not, he should be intelligent about farming." And, finally, the answers received to a questionnaire sent out to leading citizens, asking them what they thought could be done to improve the schools, showed in many cases a grave concern over the fact that city life with its cheap amusements and excitements and lack of healthy normal recreation does not provide a wholesome environment for children.

Play, an opportunity to develop mechanical ability and initiative, a practical knowledge of science, a wholesome social life and recreation—these have always been part and parcel of an all-round education; and these are the things which Memphis, like many other cities, is not giving to her children.

The duplicate school plan represents an attempt to meet these new problems in education, and to make it practicable, both administratively and financially, for school administrators to provide not only classroom accommodations, but also such modern educational facilities as gymnasiums, auditoriums, shops, and laboratories where children may be kept wholesomely occupied in study and work and play.

HOW THE PLAN WORKS.

Briefly, the plan is this: A school is divided into two parts, each having the same number of classes, and each containing all the eight or nine grades. The first part, which we will call the "A School," comes to school in the morning, say, at 8.30, and goes to classrooms for academic work. While this school is in the classrooms, it obviously can not use any of the special facilities; therefore the other school—B School—goes to the special activities, one-third to the auditorium, one-third to the playground, and one-third is divided among such activities as the shops, laboratories, drawing and music studios. At the end of one or two periods, that is, when the first group of children has remained, according to the judgment of the school authorities, in school seats as long as is good for them at one time, the A School goes to the playground, auditorium, and other special facilities, while the B School goes to the classrooms.

EXAMPLE FROM A MEMPHIS SCHOOL.

This work-study-play method can best be explained, however, by applying it to one of Memphis's own schools, the A. B. Hill. This school had an original seating capacity of 540 pupils. It now has 993 children, or 11 classes in excess of seating capacity. There are 12 classrooms and one auditorium at present in the school. There are no other special facilities. The surplus classes are accommodated in two basement rooms and a portable building, all of which are really unfit to be used as classrooms. Needless to say, there are far more than 45 pupils to a class. To relieve only present congestion under the traditional plan, it would be necessary to put up 11 additional classrooms, which, at a cost of $16,000 per classroom, would amount to $176,000, and would accommodate only the present enrollment.

It would also be necessary to buy land for playground purposes, as the site is too small.

Under the work-study-play plan, this school would be made into a 24-class school. These 24 classes would be divided into two schools of 12 classes each. There are at present 12 classrooms in the school. These would continue to be used as classrooms. An annex would be put up containing two gymnasiums (3 units) on the ground floor, one for boys and one for girls; a shop (1 unit), a cooking room (1 unit), a science laboratory (1 unit), a drawing studio (1 unit), and a music studio (1 unit), making 8 units, which, at a cost of $16,000 per unit, would come to $128,000. In other words, the cost would be $48,000 less than on the traditional plan; there would be provision for growth for at least one more class; and, in addition, there would be four types of special activities, none of which the school has at present, and which under the traditional plan would have to be provided by erecting additional classrooms.

But the important point about this reorganization is that all the children would have not only the same amount of time for reading, writing, arithmetic, geography, and history as formerly—210 minutes—but also 50 minutes of play every day, 50 minutes a day of auditorium, and 50 minutes a day of shopwork every day in the week for a third of the year; science every day for a third of the year, and drawing or music every day for a third of the year. At present the children get a 10-minute recess period for play, a few minutes for opening exercises in the auditorium, and little or no time for these special activities. Of course, each community would decide what special activities it wanted the children to have.

The following table gives a possible program for the "A School." It will be recalled that there are 12 classes in this A School, which are divided into three divisions of four classes each: Division 1, upper grades; Division 2, intermediate grades; Division 3, primary grades.

The "A School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30- 9.20	Arithmetic—Divisions 1, 2, 3.			
9.20-10.10	Language—Divisions 1, 2, 3.			
10.10-11.00		Division 1	Division 3	Division 2.
11.00-12.00	Entire "A School" at luncheon.			
12.00- 1.00	Reading—Divisions 1, 2, 3.			
1.00- 1.50	History and geography—Divisions 1, 2, 3.			
1.50- 2.40		Division 3	Division 2	Division 1.
2.40- 3.30		Division 2	Division 3	Division 1.

The "B School."

School hours.	Regular activities.	Special activities.		
	Academic instruction.	Auditorium.	Play and physical training.	Cooking, shop, science, etc.
8.30- 9.20		Division 2	Division 3	Division 1.
9.20-10.10		Division 3	Division 2	Division 1.
10.10-11.00	Arithmetic—Divisions 1, 2, 3.			
11.00-12.00	Language—Divisions 1, 2, 3.			
12.00- 1.00		Entire "B School" at luncheon.		
1.00- 1.50		Division 1	Division 3	Division 2.
1.50- 2.40	Reading—Divisions 1, 2, 3.			
2.40- 3.30	History and geography—Divisions 1, 2, 3.			

This program represents a change in the traditional method in several important points. In the first place, it breaks up the custom of having all children in classrooms at the same time, and letting the classrooms lie idle when the children go to the auditorium, shops, and playground. In other words, it applies to the public school the principle on which all other public service institutions are run—that is, the multiple use of all facilities all the time. For example, it is evident that our transportation system is made possible because of the fact that all people do not wish to ride at exactly the same time; concerts and theaters are made available to many people because one person can use another's seat when he does not want to use it; hotels can accommodate thousands of people because they are not run on the principle of reserving each room for the exclusive use of a single individual during the whole year. On the other hand, the public school system has been run on the principle of reserving a seat for each child during the whole year. All children have to be in school seats from 9 to 12 a. m. and from 1 to 3 p. m., all have to go home to lunch at the same time; and at 3 o'clock all are dismissed and turned out to play.

There would, after all, seem to be no good reason why the principle of other public service institutions, i. e., multiple use of facilities all the time, should not apply to the school, nor any reason why all children should be in classrooms at the same time, nor why the special facilities should be used only a fraction of the day, provided, of course, that the children receive during the day the required amount of academic work. In fact, it is difficult to see how the problem of providing enough classrooms, or playgrounds, or auditoriums for the mass of children is ever to be met if all children have to be in classrooms at the same time, and if all children have to play at once. Moreover, there seems to be no good reason from an educational standpoint why children should all have to do the same thing at the same time.

PRINCIPLE OF MULTIPLE USE MAKES MODERN EDUCATIONAL FACILITIES FINANCIALLY PRACTICABLE.

Fortunately, however, if the principle of multiple use is applied to public school facilities, it is possible to provide not only adequate classroom accommodations but also auditoriums, gymnasiums, and shops for the mass of children. In fact, accommodations may be provided in all facilities, if they are in use constantly by alternating groups, at less cost than regular classrooms alone may be provided on the basis of a reserved seat for every child. For example, in a 48-class school, under the traditional plan 48 classrooms are needed in addition to all the other special facilities. Under the work-study-play plan, only 24 classrooms are needed. The classroom, however, is the most expensive unit in the school, therefore, since only half the usual number of classrooms is needed, i. e., 24 classrooms in a 48-class school, the cost of the remainder is released for all the other special facilities.

FLEXIBILITY OF THE PROGRAM.

A program based upon the multiple use of facilities not only makes possible modern educational advantages for the children, but it also makes it possible to have a flexible program. A study of the different types of these schools in different parts of the country shows that it is possible for a community to adapt the program to its particular needs. For example, it is possible to arrange to have the school begin at 8.30, 8.45, or 9 a. m., or any other hour desired. Or, if the school begins at 8.30 and certain parents object to having their children leave for school so early, it is possible to put these children in the "B School," which begins the day with special activities; in this case the children can omit the play period from 8.30 to 9.20 and arrive at school at 9.20. Or again, many parents prefer to have their children take special music lessons after school. It often happens that home work or staying after school interferes with these lessons. Under the work-study-play plan, it is possible to put such children in the "A School" and let them omit the play period or the auditorium in the afternoon from 2.40 to 3.30 p. m. There is, of course, no reason why children should not be given credit for these out-of-school activities if so desired. Again, a child who is backward in a special subject, such as arithmetic, and is being held back in a grade because he can not master that subject, can double up in arithmetic for a number of weeks by omitting the auditorium period until he has made up the work and is ready to go on with his grade. As for the special activities, each community and each section of the city can have the special facilities which the school authorities and parents desire. Possibly one of the most desirable features of the program is that the children are given an opportunity for experience in various lines of work and study from the third or fourth grade through the eighth or ninth, so that they have some idea by the time they reach the upper grades what particular type of activity they are most interested in.

THE SCHOOL TAKES OVER THE STREET TIME OF THE CHILD.

As has been pointed out, one of the most undesirable elements in the life of city children is the street life in which they have hitherto spent so large a part of their time. For example, the schools of Memphis were in session in 1917–18 about 172 days in the year. This means that even though all the children attended the entire time, they would still be out of school 193 days in the year. On the basis of the 365 days in the year, it will be seen that children are under the supervision of the school on an average of not more than two and a half hours a day. Investigation has shown that all other child welfare agencies do not occupy a child's time on an average of more than 10 minutes a day. It is safe to say that the city home can not keep a child wholesomely occupied for more than 6 hours a day. Adding 10 hours for sleep, there are still more than 5 hours to be accounted for, and, as is well known, these hours are spent by the children on the city streets. In other words, a city child spends practically twice as much time on the street being educated in the wrong direction as in school being educated in the right direction.

It is imperative, therefore, that the school take over not only the opportunities for work and play which the home no longer supplies, but also the time now wasted on the city street. The work-study-play plan does this by lengthening the school day an hour or more as each community may desire, and by offering to the children wholesome activity in shops and laboratories and on the playgrounds. It should be borne in mind, however, that this lengthening of the school day does not necessarily lengthen the number of teaching hours of any teacher. It is necessary that she be around the building six hours, but she need not teach more than five hours.

PROVIDES FOR THREE OF MORE JUNIOR HIGH SCHOOLS.

Finally, one of the advantages of the work-study-play plan is that it makes possible the junior high schools, which the people of Memphis so much desire. At present there is no question but that the city school system is failing to hold the children of the seventh and eighth grades. These children are drifting out of school at the very time in their lives when they most need its guidance. With the enriched school life, which the junior high school would give these children, it would be possible to hold a far larger number than is now the case. But under the cost of the traditional plan there seems little prospect of the city having more than one junior high school within the next four or five years, and even then it could be put up only by leaving some elementary school in the midst of the present deplorable congestion. Under this plan, however, there is no reason why the city should not have three or four junior high schools by putting up new buildings which would accommodate nine grades. The upper three grades could then be grouped as a junior high school, and the pupils in these grades, as well as those in the lower grades, would have in these larger schools much richer facilities than if the two divisions were housed in separate buildings. Indeed, it is possible to have all 12 grades in the school, if the community desires it.

A BUILDING PROGRAM FOR MEMPHIS BASED ON THE WORK-STUDY-PLAY PLAN.

The board of education has asked the survey staff to suggest a building program based on the fact that $500,000 is immediately available, with a possible $2,000,000 two years hence. We have suggested how far this would go under the traditional school plan. Let us now consider what could be done with it under the work-study-play plan.

In the first place, as we pointed out at the beginning of this report, the school buildings in Memphis are inadequate for the type of city which Memphis is rapidly becoming. They are far too small even for the present enrollment, and are entirely inadequate for future growth. If Memphis has reached the point where it wishes to solve its school building problems in as farsighted and scientific a manner as it is using in developing Memphis as a trade center, it will deliberately plan not only to relieve the present congestion but to approach the whole problem in a way calculated to prevent a repetition of its present difficulties. Believing that such an approach would yield the best results for the education of the children and also be most economical for the city, we would recommend that three things be done.

1. ERECT FIVE NEW BUILDINGS.

A new building for Cummings and Lauderdale.—As we have pointed out before, Cummings is of an obsolete type to which it would not pay to add, and Lauderdale is in a section which apparently may become a Negro district, in which case the school would probably become a Negro school. The net enrollment of the two schools at present is 1,598 pupils. We would therefore recommend that a new building to accommodate 48 classes (2,160 pupils) be erected at some place to the south of these schools, since the population is growing in that direction. Such a building would cost, approximately, $512,000 and the lot approximately $20,000.

The cost is arrived at in the following way: The cost of a classroom unit is estimated at $16,000. A work-study-play school of 48 classes requires only 24 classrooms instead of 48, and also 8 special activity rooms, making a total of 32 units at $16,000 each. The total cost, therefore, of a 48 class school under this plan is $512,000, whereas, the cost of such a school under the traditional type of school organization would be $768,000. Putting this fact another way, a building under the traditional plan which cost $512,000 would accommodate 32 classes, whereas a building under the work-study-play type of organization costing the same amount would accommodate 48 classes. That is to say, the building capacity which can be obtained by a given expenditure is increased 50 per cent under this plan. Moreover, under the work-study-play plan such a building accommodates not only 48 classes but also provides 8 special activities, an auditorium, 2 gymnasiums, and 2 swimming pools, whereas under the traditional plan it is possible for the same amount to have only 32 classrooms, an auditorium, and 1 gynasium.

A school of 48 classes of this type would not only accommodate the present register of Cummings and Lauderdale and the increase of possibily four classes (180 pupils) which would take place before the building could be erected, but it would also provide for growth in that section after the erection of the building and accommodate the upper grades of A. B. Hill as well, in case the school authorities wish to make the new school into an elementary school and junior high school combined.

A new building in the neighborhood of Idlewild, Lenox, and the eastern section of Madison Heights.—The enrollment in these three schools at present is 1,575. A new building of 48 class could be put up at a cost of approximately $512,000. The land would require $20,000 additional. Idlewild is an old building of the same obsolete type as Cummings, to which it would not pay to add. Lenox is too small for economic use by a city of the size of Memphis. Madison Heights should be abandoned as soon as possible, as it is an old building and with no available land near it. The children should be transferred to Maury and Idlewild.

A new building for Peabody.—This school at present has a register of only 675 pupils, but the population in that part of the city is increasing so rapidly that it would be wise to plan for a 48-class school in that general neighborhood. Considering the present register, however, it would be best to put up only half of this building first and the other half as enrollment grows. Half of a building which can ultimately accommodate 48 classes would cost $256,000. The land would cost about $20,000.

A new building for La Rose and Kortrecht High School (*colored schools*).—The conditions in La Rose are nothing short of disgraceful. The original building accommodates only 8 classes, and at present there are 27 classes in the school. These surplus classes are taken care of in portable buildings of the most undesirable type, and the conditions are so bad that in some rooms there are 88 children and 50 seats, so that two children have to sit in one seat. Kortrecht High School is an old building near the railroad tracks which should be abandoned as soon as possible.

Under the work-study-play plan it is possible to house the eight grades of the elementary school and four grades of the high school in the same building. The two schools are separate, but such an arrangement means that the elementary school children would have the advantage of richer facilities than otherwise could be afforded them, and the high-school pupils would have the advantage of being a part of a large school community which can make demands upon them for the practical application of their work along such lines as chemistry, physics, shopwork, and mechanical drawing. Moreover, such a plan tends to keep children in school longer, so that they do not feel that they have graduated when they reach the eighth grade. In a modern city a school should be not an institution for the children, but a school community full of wholesome activities for children of different ages in which all can take part according to their ability, and thereby develop a spirit of social helpfulness as well as the power of individual expression. A school of 12 grades gives the variety of age and of activities necessary for such a community.

The cost of such a combination elementary and high school, would be about $512,000 and the lot approximately $20,000. If, however, the school authorities and parents prefer a separate high school, it will be necessary to relieve conditions in both La Rose and Kortrecht High Schools by separate buildings. This would mean an additional expense of about $154,000, which with the cost of land would come to an additional expense of about $175,000. This provision for a separate high-school building has not been included in our estimate.

A new building for Virginia Avenue.—The Virginia Avenue building is situated between two railroad tracks, one within 20 feet of the rear of the building and the other across the street. There are 22 classes of children and 11 classrooms, but the building is not fit for occupancy. A new building should be built to the south and a little to the east of this location. In order to provide for growth—this is the only colored school in the section—the building should accommodate a 48-class school. But as there are at present only 967 pupils, only half the building should be put up at first. The cost for this would be $256,000. The lot would cost approximately $20,000.

2. CERTAIN BUILDINGS SHOULD BE FIXED UP WITH A VIEW TO ABANDONING THEM IN THE NEAR FUTURE WHEN THE NEW BUILDINGS ARE COMPLETED.

The buildings to be included in this group are: White schools—Cummings, Lauderdale, Peabody, and Idlewild; colored schools—Charles, Carnes, and La Rose.

Inasmuch as these buildings should be abandoned when the new buildings are built, and inasmuch as the board of education has only $500,000 to expend immediately, we would recommend that the congestion in these buildings be taken care of temporarily by erecting modern movable buildings, a particularly desirable type of temporary structure now in use in certain parts of the country. The portables in use in Memphis are of such a poor type and so disliked by teachers, pupils, and parents that they should be abandoned. The type of movable structure, however, to which we refer has no resemblance to these portables to which Memphis is accustomed. It is possible to secure in this new type of structure the following units: An auditorium 30 by 60 feet costing approximately $1,500, and $1,000 for furnishing and setting up; a gymnasium costing the same amount; a classroom, set up, $1,000; and the special activity rooms also, $1,000. These different units can be obtained separately or in combination, so as to make a complete addition. Furthermore, these units can be combined so as to make a school with corridors, offices, storerooms, and equipped with showers, toilets, and other accessories if desired. They are sanitary, can be well heated and ventilated, and are kept clean easily. The children in the schools under discussion would be far better off in these modern movable buildings than in their present congested basement rooms and undesirable portables. When the new permanent buildings for these schools are erected, these movable rooms can be transferred to other schools which are less congested but which need relief. Therefore, although buildings of this character are used for temporary purposes, they are a permanent asset to any school system, since it is possible through their use to take care of temporary congestion as the need arises.

The following are detailed recommendations for each of the above schools:

Cummings.—Cummings now has 15 classes and 8 regular classrooms. It has no auditorium, no gymnasium, and no special activities. Two old buildings that should be abandoned immediately are used to house the surplus classes.

This school should be made into a 16-class school. The 8 rooms under the plan which we are suggesting would continue to be used as classrooms. One of the rooms in the basement could be turned into a shop and the other into a cooking room. Inasmuch as the children would be in these rooms for only 50 minutes at a time, it would be far less objectionable to use them for special activities than for classrooms as is now the case. There should be four movable rooms—one for music or drawing, one for nature study, one for gymnasium, and one for auditorium. Under this arrangement the children could have a six-hour day and an opportunity for healthful work, play, and study, which would be far better for them than sitting four or five hours in classrooms under the present congested conditions. The following is the cost of such movable rooms for Cummings:

Equipment for shop in basement	$1,000
Equipment for cooking room—basement	2,000
One movable for music	1,000
One movable for nature study	1,000
One movable for auditorium	2,500
One movable for gymnasium	2,500
Additional equipment	1,000
Total	11,000
Rent of land for playground	1,000

Lauderdale.—Lauderdale has 21 classes and only 12 regular classrooms, no auditorium, no gymnasium, no special facilities. The surplus classes are taken care of in 4 basement rooms and in 2 portable rooms. There are 9 more classes than rooms.

This school should be made into a 24-class school on the work-study-play plan. The 12 classrooms should be used as classrooms. The cost of movables for the special activities would be as follows:

Equipment for shop in basement	$1,000
Equipment for cooking room, basement	2,000
One movable for auditorium	2,500
One movable for gymnasium	2,500
One movable for music	1,000
One movable for nature study	1,000
One movable for drawing	1,000
Additional equipment	1,000
Total	12,000
Land for playground (rental or purchase)	5,000

Peabody.—Peabody has 15 classes and 8 classrooms, 7 classes in excess of its capacity. It has an auditorium but no gymnasium and no special facilities. The surplus classes are taken care of in basement rooms and portables.

This should be made into an 18-class school. The present 8 classrooms should be used as classrooms. The cost of movables would be as follows:

One movable for classroom	$1,000
One movable for gymnasium	2,500
Equipment for shop in basement	1,000
Equipment for cooking room, basement	2,000
One movable for music	1,000
One movable for drawing	1,000
Additional equipment	1,000
Total	9,500
Land for playground (rental or purchase)	5,000

Idlewild.—Idlewild has 17 classes and 8 classrooms, 9 classes in excess of capacity. It has no auditorium and no gymnasium and no special facilities.

This should be made into an 18-class school and the present 8 classrooms used for classrooms. The cost of movables would be as follows:

One movable for classroom	$1,000
One movable for auditorium	2,500
One movable for gymnasium	2,500
Equipment for shop in basement	1,000
Equipment for cooking room, basement	2,000
One movable for music	1,000
One movable for drawing	1,000
Additional equipment	1,500
Total	12,500
Additional land (rental or purchase)	5,000

Charles (*colored*).—This school has 87 pupils and 2 classrooms. There are no excess classes, but the classrooms are unfit for occupancy and two modern movables should be put up immediately until it is possible to ascertain whether there is likely to be an increase in population in this neighborhood.

Two movables for classrooms	$2,000
Equipment	1,000
Total	3,000

Carnes (*colored*).—This school has 17 classes and 12 classrooms. It is situated directly in front of the city morgue. Either the school or the morgue should be moved.

Assuming that the morgue is moved, this school should be made into an 18-class school; 9 of the 12 rooms should be used as classrooms, and of the remaining 3 rooms one should be used as a drawing studio, one as a music room, and one could be used for a cooking room. The cost would be as follows:

Equipment for cooking room	$2,000
One movable for auditorium	2, 500
One movable for gymnasium	2, 500
One movable for shop	2, 000
Additional equipment	1, 000
Total	10, 000
Additional land	5, 000

La Rose (*colored*).—La Rose has 27 classes and 8 regular classrooms. It has no auditorium, no gymnasium, and no special facilities. The surplus classes are accommodated in overcrowded old buildings.

This school should be made into a 30-class school. The 8 present regular rooms should be used as classrooms. The cost of movables would be as follows:

Seven classrooms, movable	$7, 000
Auditorium, movable	2, 500
One movable for gymnasium	2, 500
One movable for science	1, 000
One movable for drawing	1, 000
One movable for cooking	3, 000
One movable for shop	2, 000
One movable for music	1, 000
One movable for library	1, 000
Total	21, 000

These different units should be arranged so as to make a school with corridor, offices, stores, showers, and toilets. The whole would come to about $35,000.

3. A CAREFUL STUDY SHOULD BE MADE OF THE REMAINING SCHOOLS TO DETERMINE WHETHER IMPROVEMENTS SHOULD BE PERMANENT OR TEMPORARY AND WHETHER THE SCHOOLS SHOULD BE FOR FIVE OR SIX CLASSES OR EIGHT OR NINE.

The schools in this group are A. B. Hill, Bruce, Maury, and Madison Heights.

A. B. Hill.—There are two alternatives possible in dealing with the A. B. Hill situation, and only a careful study can determine which is more desirable. An annex of eight units could be put up at a cost of $128,000, which would take care of congestion and provide modern educational facilities. On the other hand, the school authorities may consider it desirable to send the upper grades of A. B. Hill to the new building to be erected for Cummings and Lauderdale.

In that case, it would not be necessary to enlarge A. B. Hill. Considering the fact that it will probably be impossible to reach a decision in this matter until the new building for Cummings and Lauderdale is at least started, and until it becomes evident also whether the school population to the east and south of A. B. Hill is increasing, and therefore whether an addition to A. B. Hill would be justified, it would seem advisable at this time to erect movable buildings at this school pending a final decision. The cost would be as follows:

The school should be made into a 24-class school and the 12 regular rooms used for classrooms.

Equipment for shop, basement	$1, 000
Equipment for cooking, basement	2, 000
One movable for gymnasium	2, 500
One movable for music	1, 000
One movable for drawing	1. 000
One movable for science	1, 000
Additional equipment	1, 000
Total	9, 500
Additional land (rental)	5, 000

Bruce.—It is a question whether an annex should be added to this building to take care of congestion, or whether the school population in this section is likely to increase sufficiently to justify a new school plant on the present site. In the latter case, it would be desirable to put up movables pending the erection of a new building. But since the present building is a good one, and since it will be impossible to determine for some time whether the erection of a new building would be justified, it is recommended that a permanent annex of 6 units be erected. The school now has an enrollment of 922 pupils. It has 13 classrooms. The school should be made into a 24-class school; 12 rooms should be used as classrooms, the remaining room to be used as a library; the two basement rooms should be used for a cooking room and a shop. The annex would contain 2 gymnasiums (3 units), a science laboratory, music room, and drawing studio. The annex should be so built that it can be added to as the school grows so that it could include an auditorium and other special activities such as the shops which could be transferred from the basement of the main building. Pending this growth and the enlargement of the annex, a movable auditorium should be erected temporarily, since it would probably be undesirable to add one to the present old building, as there is hardly sufficient room or light at the rear of the building to warrant it. Such an annex would cost $96,000, and the auditorium $2,500.

Maury and Madison Heights.—Maury has 15 classes and 13 classrooms. It could be reorganized on the work-study-play plan with no additions except the auditorium, but this would leave Madison Heights with no relief and there is no land at Madison Heights for movables.

A second alternative would be to transfer Madison Heights to Maury, with the possible exception of two classes to be sent to Idlewild or Bruce. Maury could then be made into a 24-class school. The 12 classrooms could be used as classrooms; the extra room could be used as a drawing room; the two rooms in the basement could be used as a cooking room and a shop. An annex, or additions to the two wings of the building, could then be put up containing a nature-study room and music studio on the second floor, and two gymnasiums on the first floor. This addition of 4 units would cost $64,000, and an auditorium at the rear of the building would cost approximately $12,000, making a total of $76,000.

There is a strong desire in Memphis for a new vocational school, although it is also recognized that this need should not be met until the congestion situation for the majority of children is taken care of. If, however, the board of education wishes to reorganize the Vocational School on the work-study-play plan, it would be possible to relieve the situation in that building and add four or five shops to the present school. This can be done as follows:

The Vocational School has 20 rooms, of which 15 are classrooms, 2 are shops, and 3 are laboratories. It also has a gymnasium, which is now used as an auditorium. The enrollment in 1918–19 was 770. Under the proposed plan, the school could be made into a 24-class school; 12 of the rooms could be used as classrooms, 2 could continue to be used as laboratories, 1 for chemistry and 1 for physics, 1 could be used as a mechanical drawing room, and the remaining 5 for the shops which are now desired—i. e., woodworking, and printing, which exist at present—and also automechanics, sheet metal and electrical work. An expenditure of $20,444 would be sufficient for these shops, and certainly this would be as much as should be spent on the present building.

Under such a reorganization, all the children in the building would have the opportunity for a greater variety of work with better equipment than would be possible if no appropriations were forthcoming until a new building could be built.

REPAIRS.

A large number of buildings in Memphis are in such bad repair that one of the first items to be considered in the expenditure of the $500,000 now available should be that of repairs. At least $50,000 should be set aside for this purpose. Detailed recommendations in regard to repairs to the existing buildings, together with recommendations for guidance in the choice of school sites and erection of buildings, in order to avoid some of the mistakes of the past, are given on page 142.

Table 82.—*Summary of cost of building program for Memphis on the work-study-play plan.*

1. Permanent investment for new buildings.		
Cummings and Lauderdale:		
New building (48 classes)	$512,000	
Land	20,000	
Idlewild, Lenox, and Madison Heights:[1]		
New building (48 classes)	512,000	
Peabody:		
One-half of 48-unit building	256,000	
Land	20,000	
La Rose and Kortrecht High School	512,000	
New building (48 classes)	20,000	
Virginia Avenue:		
One-half a 48-unit building	256,000	
Land	20,000	
Total		$2,128,000
2. Some buildings to be fixed up temporarily until new buildings are built.		
White schools.		
Cummings:		
Movables	11,000	
Land rental	1,000	
Lauderdale:		
Movables	12,000	
Land (rental or purchase)	5,000	
Peabody:		
Movables	9,500	
Land (rental or purchase)	5,000	
Idlewild:		
Movables	12,500	
Land (rental or purchase)	5,000	
Total white	61,000	
Colored schools.		
Charles:		
Movables	3,000	
Carnes:		
Movables	10,000	
Land	5,000	
La Rose:		
Movables	35,000	
Total colored	53,000	
Total for white and colored schools		114,000

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[1] The cost of land for this building can be met by the sale of sites to be abandoned.

3. Debatable.		
A. B. Hill (item No. 3, p. 134):		
Movables	$9,500	
Land	5,000	
Bruce (item No. 3, p. 135):		
Permanent annex	96,000	
Movable auditorium	2,500	
Maury and Madison Heights (items No. 3, p. 136):		
Permanent addition to Maury	76,000	
		$189,000
4. Vocational High School shops (p. 136)		20,000
5. Repairs (p. 136)		50,000
Grand total		2,501,000

Two alternative plans for expenditure of $500,000.

Plan 1.

Movables for 7 white and colored schools (see item No. 2, p. —)	93,000
Land for the above	21,000
A. B. Hill (see item No. 3, p. 134):	
Movables	9,500
Land	5,000
Bruce (see item No. 3, p. 135):	
Movables	12,000
Peabody (see item No. 1, p. 133):	
New building	256,000
Land	20,000
Vocational High (see item No. 4, p. 136):	
Shops	20,000
Repairs (see item No. 5, p. 136)	50,000
Total	486,500

Plan 2.

Movables for 7 white and colored schools (see item No. 2, p. 131)	93,000
Land for the above	21,000
A. B. Hill (item No. 3, p. 134):	
Movables	9,500
Land	5,000
Bruce (item No. 3, p. 135):	
Permanent annex, 6 units, movable auditorium	98,500
Maury and Madison Heights (item No. 3, p. 136):	
Permanent addition to Maury	76,000
Peabody (item No. 1, p. 129):	
Site for new building and one wing erected (one-fourth final building)	128,000
Vocational High School (item No. 4, p. 136)	20,000
Repairs (item No. 5, p. 136)	50,000
Total	501,000

The board has the sum of $250,000 immediately available and $250,000 available after July 1, 1920. We have considered the two amounts as a lump sum and have suggested two plans for disbursement, each of which is in harmony with the larger plan which has been outlined.

An examination of these two plans discloses that both provide for the immediate relief of the crowded conditions at Cummings, Lauderdale, Peabody, Idlewild, Bruce, Charles, Carnes, La Rose, and A. B. Hill. Both plans also provide temporary relief for the Vocational High School and in both an item of $50,000 for repairs is to be found. Neither plan affords any relief for Virginia Avenue and the Kortrecht High School (both colored) where conditions are so bad that there seems no chance for betterment until through a bond issue permanent buildings can be provided.

The plans differ in that the first proposes that a site near the Peabody School be secured and a new and permanent building (one-half the size which it ultimately should become) be stated at once and that temporary relief only be given Bruce. Furthermore, it should be noted that Maury and Madison Heights are given no relief.

The second plan suggests that a site for a new building near Peabody be secured but that only one wing of the permanent building be erected at this time. It provides, however, that a permanent annex be erected at Bruce, and that the congestion at Maury and Madison Heights be cared for by erecting a permanent addition at Maury.

It will be interesting to compare the two proposed plans in respect to the amounts which are to be invested for temporary and permanent purposes. A table showing this distribution follows:

Table 83.—*Distribution of expenditures under the two plans.*

	Amounts expended in—				
	Permanent buildings.	Movable buildings.	Land.	Repairs.	Total.
Plan No. 1	$276,000	$114,500	$46,000	$50,000	$486,500
Plan No. 2	307,500	102,500	41,000	50,000	501,000

While, as has already been pointed out, money invested in modern movable buildings is not wasted, as these are always needed in every rapidly growing city, nevertheless, inasmuch as Plan No. 2 calls for an investment of somewhat more in permanent buildings and, more especially, as this plan cares for all the present congestion that the first plan does, and, in addition, relieves the acute situation at Maury and Madison Heights, which the first plan does not do, it would seem to the survey staff the wiser step to adopt the second.

SUMMARY.

A comparison of the cost of a building program under the traditional plan of school organization, and under the work-study-play plan.—The board of education faces a serious situation in regard to school congestion. The school buildings, as originally planned, were inadequate for a growing city like Memphis. The congestion has been steadily growing worse until in the present year (1918–19) there are 19,460 children, and a seating capacity for only 14,445. That is, there are 5,015 children in excess of seating capacity. Approximately 50 per cent of the 19,460 children in the 31 day elementary schools are found in 13 schools in the southern and southeastern sections of the city, and 72.5 per cent of the 5,015 in excess of seating capacity are also found in these schools. These 13 schools are: *White schools*—A. B. Hill, Cummings, Lauderdale, Bruce, Idlewild, Madison Heights, Peabody, and Maury; *colored schools*—Carnes, Charles, Kortrecht High School, La Rose, and Virginia Avenue. The children in excess of seating capacity are being housed in basement rooms which are often damp and cold; in portables of a most undesirable type, overcrowded, badly heated, and poorly ventilated; and in old dwelling houses utterly unfit for classroom purposes.

These conditions are such a menace both to the health and to the education of the children that the city of Memphis can not afford to let them continue. Moreover, in the Memphis schools there are few auditoriums and practically none of the modern educational facilities such as shops, laboratories, cooking rooms, drawing rooms, and gymnasiums, which are essential parts of modern elementary schools and which should be provided for in any farsighted building program.

There are two methods of meeting the school congestion problem in Memphis. One is the traditional method of reserving a seat for every child and leaving the classrooms unused when the children are using other facilities. The other method is known as the work-study-play plan by which all facilities are in use all the time for the children.

Under the traditional plan of school organization.—It would cost $3,573,000 to relieve present congestion in the 13 most crowded schools and provide for growth in these schools.

This expenditure, however, would provide only classroom accommodations and practically none of the modern educational focilities such as shops, laboratories, drawing and music studios, gymnasiums, swimming pools, and auditoriums.

Moreover, since only $500,000 is immediately available, it would be impossible, under the present plan of school organization, to do more than relieve congestion in two schools, Bruce and A. B. Hill, during the coming two years. That would leave 11 schools without relief.

Furthermore, the annexes for the two schools could not be erected in less than a year or two, so that for the present there would be no relief at all.

Under the work-study-play plan.—An expenditure of $2.501,000 would give the following results:

1. Five new buildings of the most modern type could be erected—one for Cummings and Lauderdale, one for Peabody, one for Idlewild, Lenox, and Madison Heights, one for La Rose and Kortrecht High School (colored), and one for Virginia Avenue (colored).
2. Immediate relief could be given to the children in 8 of the 13 most congested schools. By reorganizing these schools on the work-study-play plan and by using modern movable buildings until the new buildings for these schools can be erected, all the children in the eight schools could be given not only classroom accommodations for the regular amount of time in academic work but also opportunity every day for work in such special activities as shops, nature-study rooms, gymnasiums, auditoriums, and playgrounds.
3. A permanent annex to Bruce could be erected immediately which, with the main building, would accommodate a 24-class school. An addition could be erected at Maury which, with the main building, would take care of both Maury and Madison Heights.
4. Additional shops could be provided for the Vocational School.
5. Fifty thousand dollars could be expended in general repairs to all buildings.

To sum up: As was pointed out, there are now 9,433 children in the 13 most congested schools in the city, 3,718 of whom are at present in excess of the seating capacity of the schools. But the organization of these schools under the work-study-play plan would do more than relieve congestion. It will give not only classroom accommodations for the full amount of time for academic work, but it will also give to all the children in the schools an opportunity for play every day in well-equipped playgrounds and gymnasiums, and an opportunity for work in well-equipped shops, laboratories, drawing and music studios, libraries, cooking rooms, or any other special activities desired by the community and school authorities.

Moreover, by lengthening the school day, this plan eliminates the street time of the child and keeps him wholesomely busy at work, study, and play. It also makes possible a better cooperation between the school and other child-welfare agencies. For example, the work in the library can be part of the regular school work, so that the excellent work already being done by the Memphis libraries in cooperation with the schools can be enlarged and extended. Again, as this plan provides for playgrounds in connection with each school, and as these playgrounds are in use every hour of the day, under the supervision of trained playground instructors, it is not necessary for the city to support separate playgrounds, as is usually the case. Moreover, the playgrounds are used more because they become the natural recreation centers for the children and the adults of the neighborhood.

The work-study-play plan, though not the traditional school plan, has had sufficient trial to show that it is sound not only from an economical but from an educational standpoint. Since under the present plan of school organization it would cost $3,573,000 for the city of Memphis to meet its school congestion problem without providing for the modern educational facilities, whereas the expenditure of $2,501,000 under the work-study-play plan would not only solve the present congestion problem, but provide modern educational facilities and a far richer school life for the children than is possible under the former plan, it would seem obvious that the work-study-play plan is the best solution of the school problem of Memphis. It is therefore recommended that the 13 most congested schools in the city be reorganized on this plan, not only as a means of relieving congestion, but of giving an enriched education to the children of Memphis.

II. GENERAL RECOMMENDATIONS.[1]

THE SELECTION OF SITES.

The unit of the school building is the classroom. Because of the very important fact that classrooms should be furnished with east and west light, the shape and position of a lot with reference to the cardinal directions have much to do with the planning and practical use of the building. For example, if a site is selected whose long side faces toward the north or the south, and the lot is too narrow to receive the long axis of the building, then most of the rooms are bound to receive either the south or north light, and this is always bad, because, if the lighting is from more than one side, either the teacher will have to face the light or the pupils will have to face it. Either is unjustifiable and unnecessary if window spacing and proportions are properly arranged.

An example of a good building properly orientated is the Rozelle School. The majority of the classrooms in this building face toward the east or west and the lot is large enough to accommodate the building with its long axis from north to south. If the lot, however, had been so restricted that insufficient space had been furnished to set the broad side of the building to the east, another type of building with most of the class rooms opening toward the north or south would have been almost imperative. The board should select lots which will permit the architect to meet the foregoing requirements. To take another example in order to show how a lot too shallow from north to south is likely to lead the architect astray, we cite the Peabody School. Here, because the lot is comparatively shallow, the building was planned and set so that its broad sides, with its classrooms, face to the north and south. If the lot had been deep enough to set the building with its long axis from north to south, then the classrooms would have received the east or west light, to the advantage of the children and of the teachers. If a block of ground is furnished, then most of the difficulties mentioned can be readily overcome.

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[1] In compiling this report, the Educational Survey staff wishes to acknowledge its indebtedness to the Memphis Rotary Club for the many valuable suggestions contained in its excellent report on the school buildings of Memphis.

Sites should be selected which can be easily drained, and, particularly, so that the basements of buildings can be drained readily. The Snowden School, for example, is situated on a lot that is rather low and inclined to be wet, and to make matters worse, the building is set on ground which is lower than the street level. If this building had been set higher, and the lot filled in so that the drainage would have been away from the building instead of toward it, as is not the case, much difficulty which is bound to come soon would be avoided. The woodwork in the basement rooms is now rotting. These rooms are bound to be damp in summer, and, to some extent, in the winter. All basement walls and floors should be above the water line to keep the building dry. This can be secured most economically and safely by surrounding the building with a form tile drain set at least deeper than the lowest point in the basement floor or foundation. On a site with this type of drainage, ground water will not rise in the basement, and there will not be soggy, damp walls, provided, of course, that roof waters are safely carried away from the building. If a lot is selected where an outlet for such a drain is impossible, then, at best, damp walls are inevitable. It is almost impossible to cement successfully against the inflow of ground water in basements, especially when comparatively deep basements are used.

LIGHTING AND WINDOW SPACE.

In this climate if an amount of window space is properly placed to equal one-fifth of the floor surface for the rooms as above outlined, ample light will be afforded. This plan has been well tested and is represented in the Guthrie and the Rozelle Schools. The windows should be closely grouped, slightly to the rear of the left side of the pupils as they sit at their desks. They should be set full 4 feet above the floor and reach within 6 inches of the ceiling. In this particular one of the few serious mistakes was made in the splendid Rozelle School building. The rule is that the bottoms of all windows should be above the eyes of the children when seated at their desks and the reasons for this demand may be briefly stated as follows: If the bottom of the window is below the eyes of the children, then the light reflected from without will enter the pupils' eyes directly and their eyes be automatically adjusted to this light, which is usually stronger than that reflected from their books or the work in hand. There is a conflict in adjustment, for the children will be intent upon focusing their eyes upon their book, while the stronger direct light will be constantly demanding a different adjustment. Hence, they will either have to shade their eyes or suffer the strain due to these conflicting demands. No one who has not studied this experimentally would imagine the relief that comes to the children when the windows are set as indicated. In this connection we should like to recommend that in all buildings where the windows are not less than 4 feet above the floor, window boards be used to lift the line of light to this height. These will cost little and not only give the children relief as suggested, but aid in window ventilation in cold weather by allowing the entrance of the air without producing disturbing drafts.

CLOAKROOMS.

In all elementary schools the cloakrooms should open only from the classrooms, for then the teacher can most effectively guard the wraps, umbrellas, and other belongings, and command better and more seemly behavior among the children. In many cases, in the present schools, the hooks for the wraps and hats of the children are placed at the same height for all the grades, and this is generally a height proper for adults. In many instances, the small children can not reach them, and consequently their belongings find lodgment in the umbrella trough or on the floor. This is another example of how little builders and architects know and think about the varied demands of school life. Careful and competent criticism of plans and construction would have prevented this mistake, and hundreds of others of a similar nature.

BLACKBOARDS.

The board of education is to be commended for the almost universal excellence of the blackboards in the city schools. Probably no city in the country can make a better showing in this regard. While the initial cost of the excellent slate boards used has been greater, in the long run they will prove the most economical and satisfactory that could have been selected. But they should be set at the proper height for the children who occupy the various rooms. This principle has been neglected in nearly all of the Memphis school buildings, for in most cases they are set at the same height for all grades. This has resulted in useless expense and has given much trouble. The blackboard should be set approximately 26 inches from the floor for the first and second grades; 28 inches for the third and fourth grades; 30 inches for the fifth and sixth grades; 35 inches for the seventh and eighth; and 36 inches for the high-school grades.

FURNACE ROOMS.

It is cheaper and safer to fire-proof all furnace rooms, stairways, and halls than to build outside fire escapes and depend upon them for the safety of the children. The outside fire escapes in the Memphis school buildings are steep, and often have their exit from the classroom, where in case of panic, a jam could easily occur and make it much more difficult for the children to get out than if the ordinary interior stairs were used. It would take practically double the time to get the children out by means of the fire escapes, as by the well-placed stairs. A test was made of this, and it was found that it took 3½ minutes to get a building emptied. The usual time for a school of corresponding size is less than 1½ minutes. In cold weather, when fires are most frequent, outside iron steps may be slippery, and even more dangerous than usual. The best modern practice is to construct the coal rooms, furnace rooms, halls and stairways of fireproof materials, and then, with carefuly planned and frequent practice fire drills, to depend entirely on the regular stairways for safety.

HEATING AND VENTILATION.

Owing to the fact that the investigations of the school buildings were made during the warm season when no fires were needed, investigations of the heating plants had to be limited to general observations, and to such information as could be obtained from the janitors, principals, and teachers. The general use of the low pressure steam heating system is to be commended and save in a very few instances, no complaint was made as to the effectiveness of the installations. In some schools, however, an extremely objectionable feature of the heating plants was noted, i. e., openings have been made in the floors of the lower halls through which heat may arise through a grating from a radiator. Foul air from the basements is thus drawn into the halls and classrooms above. Some of these openings issue from points not far removed from toilets, and furnace rooms, while others open from parts of the buildings not ordinarily furnished with clean, pure air. Such a situation is unjustifiable and should under all circumstances be prevented in future buildings. It is usually safer, cleaner, and cheaper to use radiators in halls, for these can be set and easily arranged to accommodate the children who need to warm their feet, or dry their clothing.

Most of the buildings have not been furnished with sufficient and convenient space for the storage of coal. Doubtless anxious times come in extreme weather when difficulties of immediate delivery are encountered. In future buildings provision should be made for larger and safer rooms for the storage of fuel. Prices are generally reduced for summer delivery, and if the winter's supply can be stored during vacation much annoyance, as well as money, will be saved. As it is unsafe to bank slack coal very deep, larger rooms should be provided. In many instances much fuel could be saved by covering the exposed steam pipes with asbestos. It is poor economy to neglect this saving.

Ventilation in the various buildings is secured through the use of open windows. This is probably the best method for the climate of Memphis during either winter or summer, if the teachers are scrupulously careful in regard to opening the windows from both top and bottom. It was observed, however, that very few windows were lowered from the top as well as lifted from the bottom. The reason for this neglect was due largely to the fact that no window poles were furnished; in fact few of the upper sashes were provided with catches to receive the hook of a window pole. This ought to be remedied before the beginning of another school year. Doubtless one reason why the upper sash is infrequently lowered, arises from the fact that the window shades in use are fastened to the top of the casing. Unless they are completely rolled up when the sash is lowered the shade is caught by the incoming air and blown about noisily. In the future some sort of an adjustable shade should be used.

DRINKING FOUNTAINS.

Strange to say, one of the most difficult things to get into the heads of adults is the fact that children are not so big as adults, nor so tall as adults. In a great majority of the buildings, the drinking fountains are set a little too high even for adults to use easily. Many of them indeed are so high that the small children can reach them only by tiptoeing or climbing up on the fixtures, or on a bench. It would have cost less to set them lower, moreover if they were lower all the children could lean directly over the bubble, drink without touching the fixtures with their mouths, and save themselves from wetting their clothing. Under the present conditions, common cups would be almost as sanitary as the fountains now in use. We recommend either that all the fountains be lowered, or benches set so that the children may bend over the cups and drink without touching the fixture with their mouths. In all future buildings the board should see to it that a better type of fixture is used, and they be set to *suit children.*

STOREROOM.

Broken furniture, supernumerary desks, and other supplies should be stored in a centrally located storeroom rather than in the basements of school buildings. The basements could then be cleaned up, and materials checked in and out as needs dictate. There should also be a shop for a mechanic where furniture may be repaired and accurate check kept on all valuable materials.

FLOORS.

Scrubbing schoolroom floors is a serious blunder, except in very rare instances. Nothing will ruin a good floor more quickly than frequent scrubbings. It should be cleaned by sweeping with a brush, broom, and dustless sweeping compound, as is generally done in the Memphis schools, and when necessary to insure a more thorough cleansing should be scrubbed with sandpaper. If, however, floors are kept well waxed or properly oiled so as to keep the joints tight and the pores of the wood well filled, this will rarely be needed. In some of the buildings scrubbing is still customary and the floors are in bad condition.

TOILETS.

In a large number of the older buildings the old type of latrines is used. That is to say, a seat is not necessarily flushed immediately after use, but all are flushed at the same time by an automatic tipple, which, as it fills with water will ultimately reach a plenum point where it becomes overbalanced and discharges enough water to cleanse all the seats at once. Some of these are set to fill rapidly and discharge frequently; others are set to discharge only during or after intermissions. It is plain that this system is either wasteful of water, when set to insure frequent regular flushings, or open to the objection of retaining waste too long. Such a condition fills rooms with odors, necessitates that seats be used more than once before being flushed, or that the janitor be on guard constantly to see that they are flushed whenever needed. It is bad policy to waste water, but it is unreasonable to expect the janitor to be always on guard, not only during intermissions but more or less during the entire day. In many cases, we found that waste from the previous day would remain in the toilets all night because the janitor had cut off the water apparently immediately after recess and took no account of conditions thereafter. Most of them were open to flies and of course were insanitary and objectionable.

It is asking too much of any janitor both to save water and to keep this type of toilet entirely sanitary. It is recommended that no more of this type be installed, and that at the earliest possible date those now in service be taken out and a modern individual wash-out system installed. Further it is recommended that until this is possible the janitors be all directed to adjust the flow of water so that during the entire school day the toilets will flush frequently and automatically; be cut off at night only after all children have gone, and turned on again as soon as the children arrive at school. This will necessitate the use of more water, but it will save the janitor's time and make conditions much more wholesome. All outside toilet buildings should be locked immediately after school and kept locked until the children return. This is not always done, and as a result outsiders may enter, and are likely not only to misuse the building, but frequently to leave obscene scribblings.

The automatic sanitary individual flush toilets we found in the newer buildings are perhaps as good as any for the larger children, but they are not satisfactory for the smaller children, because they are too difficult to mount and frequently too slow to fill for good flushing. It is indeed strange that there are no juvenile sizes of toilet seats in the Memphis schools or, for that matter, in the schools of nearly all the other cities of this country. Toilet seats are all of the adult size and set at a height to accommodate adults. Consequently, the little folks have to climb upon them, and slide off them, much to their discomfort and to the disadvantage of cleanliness both for the children and the seats. If adults were subjected for a time to such inconveniences, possibly they might come to think more carefully of the needs of the children. A barrel would be but a little less too tall or too large for an adult than adult toilet seats are for the little ones. It is recommended, therefore, that in all buildings constructed in the future and designed to accommodate children of the primary grades, the architects be directed to specify a proportionate number of juvenile seats and to segregate them from the larger ones. This will automatically segregate the smaller children from the larger in these rooms, accommodate them more decently, and also save expense and space.

Many of the toilet rooms are dark and badly ventilated. This is generally true of those in detached buildings as well as of those in the basements of the school building proper. These conditions are due most frequently to the faulty planning of the building, and in many instances conditions have been made worse by faulty placing of the seats and the urinals. It is a serious mistake, in planning school buildings, to think of the toilet least, or at least not to have in mind from the start that these necessities demand the best possible position with reference to the proper accommodation of the children as well as of the requirements of sanitation. In all future buildings the toilet rooms (*a*) should be placed with their long side to the east, west, or south side windows so that they may receive as much direct sunshine as possible, for under no other conditions can they be kept so sanitary and decent; (*b*) they should be made not over 14 feet wide for the boys, or 12 feet wide for the girls. The reason for these recommendations may be briefly stated as follows: (1) If you wish children to preserve decency and cleanliness in school toilets, *turn in the light;* (2) if you wish children to avoid gathering and loitering in the toilets, make the rooms just large enough to meet legitimate needs; (3) if you wish to render the toilets free from odor, and keep them sanitary, let in the sunshine and fresh air. The prevailing practice in Memphis has been to place the seats and urinals in rooms with the short side to the light, so that the seat stalls are dark, and the urinals get little direct ventilation. Many have a double row of stalls set back to back. This arrangement always makes the room quite dark and necessarily makes one set of stalls face directly from the light. Furthermore, it makes it impossible for a principal, teacher, or janitor to make a quick inspection of the room and thus forestall license and carelessness on the part of children whose standards of decency and propriety are still relatively low.

Many of the seats in the various toilet rooms are broken and should be repaired at once and kept in order. The moment a toilet fixture gets out of repair that moment an increased carelessness on the part of the children will begin. It is a curious phenomenon that children will express their disapproval of conditions in toilets by deliberately making them worse.

In practically all the buildings furnished with the slot and stall urinals the floors instead of being sloped to wash out into them and thus insuring the minimum of saturation of the cement floor with urine, slope into an outlet in the floor some distance from the slot. Consequently, the urinals fail to get the advantage of an extra flushing whenever the floor is washed. This could all have been avoided by setting the slot of the urinal lower and setting the floor to slope to it instead of to a separate drain in the floor. Here, again, the need of sunny, well-ventilated toilet rooms is emphasized. The more soiled the floor becomes in front of the stalls the farther back the boys will stand and the more liberties they will take. There are better types or urinals now than the slot form, though in justice we must say that these represented about the best at the time they were installed in these buildings. We recommend that in the future the individual enameled small type be used. They are liable to be more expensive in their initial cost, but in the long run cheapest and best. The trough urinals used in many of the buildings are generally rusty and discolored. They should be painted and put in good condition at once. Here, again, is an illustration of how little architects and builders think of the actual needs of children. Nearly all of the urinal troughs are set so high that the little boys either have to tiptoe to use them or in some cases have to climb up to them. How long would such conditions last if adults had to endure them? In general, the trough type is objectionable, but since they have been installed it will doubtless not be feasible to substitute a better type in the immediate future. It is, therefore, recommended that either they be lowered to suit the needs of small boys, or benches of a suitable height be set for the little boys to stand on. The use of white tile and glazed brick for the floors and walls of toilet rooms is to be commended.

JANITOR SERVICE.

The janitor service for the schools of Memphis is for the most part below the standard which should be maintained. The causes for this situation may be stated as follows:

The salaries paid are too low to attract and keep in the service those who might be expected to study their work intelligently and professionally, and to have sufficient vision to appreciate the educational and sanitary significance of the proper care of school buildings and school grounds. (A salary schedule is suggested in Chapter II.) Boards of education will never serve their people properly until they come to realize that one of the most important persons about the school is a well-qualified, capable janitor. He must be able to understand the proper use of all the equipment connected with a modern school and know how to care for it and keep it in order. He must know why cleanliness is demanded and take a pride in the care of his building. He must know how to sweep, set desks, ventilate, how to use and adjust thermostats, how to build fires to save coal, how to minimize fire hazards, how to deport himself in the presence of teachers to command their respect and appreciation, how to guard the morals of the boys, especially in toilets and on the school ground, and how to command their respect and secure their good will in every way possible. He must have sufficient initiative and skill to meet emergencies, and to devise better ways to keep the building and grounds neat and attractive. The time has passed when anyone who can wield a broom and build a fire has fulfilled the requirements of a janitor. He, too, must teach, not from books, but through standards of decency, neatness, sanitation, and that sense of propriety and orderliness which every community needs more and more.

While the school buildings of Memphis were doubtless seen under the most favorable conditions, since the coming of the survey staff was anticipated, and the janitors had made ready for such visits as does the average housewife for visitors, yet the evidence of lack of proper supervision of janitor service was more or less general. The survey staff was told that the janitor was directly responsible to the principal of the school, and therefore under his immediate supervision. This is as it should be, but it carries with it the necessity on the part of the principal of making frequent and careful inspection of all parts of the building and grounds, in order to cooperate with the janitor and to direct him intelligently in his work where this direction is necessary. There is an evident lack, however, of such supervision. Either, there is no practical authority allowed the principals, or else many of them have not taken that vital daily interest in their buildings and grounds that one would expect them to take in their homes.

The janitor service apparently reflects a general lack of close supervision of the system as a whole. That is to say the standards of sanitation and tidiness observable in general would be improved to a marked degree by closer and more minute supervision from the central office. For example, we believe it would be eminently advisable that a school for janitors should be instituted and maintained through which the superintendent of schools could set up higher standards of service and develop a real professional interest in this very important branch of the school work. During the coming year a schedule of lectures, demonstrations and conferences for the janitors should be instituted, so that they could be brought together at least once a month in some central place, with the opportunity to organize themselves by electing one of their most efficient members as chairman, and working out a regular program bearing on the problems they meet daily. Included in this program there should be occasional lectures by the superintendent of schools, city health officers, the department mechanic or engineer, a representative of the fire department, and any others competent to teach them the fundamental significance of their work, and in a measure to dignify it and make it of real interest, not merely a task.

One of the big problems of the schools in the South, where the climate makes larger demands on sanitation and cleanliness than in other sections, is that of inculcating in our children a permanent taste and an intelligent understanding of the importance of sanitation and neatness. The schools should do this by setting the example and by direct teaching. Who is responsible, for example, that in certain public school buildings of the city we should find that parts of the basement are used as hen houses, or to store furniture not belonging to the school, or where much useless débris has accumulated to gather dust and dirt as well as create a fire hazard, or where drains are chocked to the detriment of the buildings and grounds, or where barrels and cans furnish breeding places for mosquitoes, or where schoolhouses are menaced by insanitary conditions of adjacent property, or where shrubbery is allowed to grow so near to the buildings as to shut out the sunshine from basement rooms, and hundreds of other details calling for improvement. It can not all be laid to the janitor, to the principal, to the superintendent or to the board of education, or the city health authorities. All are involved, and all should cooperate to set things in order and make the janitor service a real educational service as well as a housekeeping necessity.

The authorities are to be commended that so-called "dust-down" is used in sweeping, but we were surprised to find feather dusters just as frequently used. Feather dusters do not remove dust—they merely scatter it in the air—and as the dusting is generally done in the morning before school begins, the children breathe more of it than they would if it were left on the desks. They would get it on their hands, in that case, which would be bad, but not so bad as to breathe it. Dusting of all furniture should be done with prepared cloths or mops, so that it may be removed from the rooms and not merely stirred up to be inhaled or to settle again. We recommend that feather dusters be at once abolished and that dustless cloths or mops be used instead.

The method of paying a lump sum per month for the total janitor service and then of permitting the janitor to hire his own help is open to the objections that there is a constant temptation for him to hire cheap labor, to do too much and, consequently, slight some parts of it, and at times to introduce people into schoolrooms who, for health or moral reasons, have no right there. Let us illustrate by taking a single example, though for several reasons omitting names: One large building was visited where obviously there was too much work for any one person, however energetic and competent, to do thoroughly and satisfactorily. But, in order that the total income might be for personal use, no help was secured. As a result the building was not clean and, indeed, in many places disreputable dirty. It is recommended that the superintendent of schools, with the aid of the principals, determine the amount of service needed for each building and select a personnel to do it. While there should be a chief janitor, he should receive a definite and direct salary for his work and be held personally responsible for its successful completion. (See Chapter II for further discussion of this point.)

In several of the buildings we found the janitors serving lunches to the children, and thus dividing their time and possibly being tempted to use this opportunity as a source of income. In some of the buildings we observed that the lunches were being served under insanitary surroundings and the food being handled by unclean hands. This should not be permitted. If no better method than this can be devised, serving lunches at schools should at once be abandoned.

There is an evident lack of definite program of service for the janitors, and as a result many of them are being called on for services which they should not be asked to perform. We found that at times they serve as messengers, take care of the children who report to school before the teachers arrive, look after the boys on the playground and in the basement, and do various other services not strictly germane to their jobs. The first duty of a janitor is to keep the building and lot in as good condition as possible, and this includes a surprisingly large number of things. Teachers sometimes forget that the janitor's day is a very long one. In cold weather his fires must be burning very early, and sweeping must be done after schools have closed, and "acres of floor" are not quickly cleaned. It is, in general, a bad policy for janitors to be called on to do any sort of personal service, for their time and strength has been purchased by the board of education for another purpose. Teachers should be detailed to look after the children on the school grounds and see that they clean their shoes, refrain from scattering paper from luncheons, or in any way misusing the building. These are educational opportunities and should be utilized for the sake of the training of the children as well as from the point of view of caring for school property. (See Chapter II.)

We recommend that better means at most of the schools be provided for removing mud and cinders from the shoes of the children before they enter the building. The cost will be very little, and if the teachers demand of the children that they clean their shoes carefully the building will be much easier to keep clean, the floor will last longer, and the hygienic condition of the building much improved.

There is an air of general carelessness regarding the neatness of the school grounds. Scattered paper, loose boards, piles of ashes, and other débris were frequently seen. No service about a school is more acceptable to all concerned than neat, orderly, and well-kept playgrounds. This is the janitor's business, and with proper encouragement and cooperation on the part of the principal, teachers, and pupils it should require comparatively little of his time to keep the whole environment neat and clean. Children unconsciously respond to such conditions and are most easily managed as a result.

SUGGESTIONS REGARDING INDIVIDUAL BUILDINGS. (WHITE SCHOOLS.)

BRUCE SCHOOL.

The toilets in this building are clean, but inadequate.

Classrooms in the basement are unsatisfactory.

Classrooms are tinted a dirty yellow and they should be cleaned and retinted a light color.

The three buildings used as annexes to this school are badly adjusted and unfit for school purposes.

The toilet facilities of these annexes are inadequate and the buildings are dangerous fire hazards.

CENTRAL HIGH SCHOOL.

This is a modern and in many ways up-to-date school building. The grounds are especially beautiful and large and the wisdom indicated by the purchase of this school site is to be commended.

The jar from the engine under the stage is quite annoying, and something should be done to stop the vibration. The trouble is apparently caused by hanging the steam pipes to the concrete floor above. The class in physics might be set the problem of trying to eliminate this obvious fault.

The building begins to indicate the lack of care; for example, the drain pipe from the roof of the manual arts room, in the rear, is missing and should be replaced at once, as the water from the roof pours down the side of the building and keeps the walls damp.

Many window shades are badly mutilated, giving the rooms a ragged, unkept appearance. We also note that many of the teachers are careless with reference to adjusting their shades so as to secure the best light. Here, as in the Rozelle School, the bottoms of the windows are too low, so that the reflected light comes into the eyes of the students, rather than on their books. Quick relief would come if this were corrected with window boards.

The students here are more careless with the building than they should be; witness the condition of the room turned over to the athletic team.

The wisdom of installing a complete electric plant for this building, necessitating fires under the boilers every day in the year, is doubtful. It would be a good piece of research work for those who are interested in engineering in the high school to determine the cost of such plant and of the direct purchase of the city current. There is an increasing tendency to depend upon city current rather than to manufacture their own electricity in the larger schools throughout the country.

CHURCH HOME SCHOOL.

We feel it our duty, since the city of Memphis furnishes the teachers for this school, to call attention to the fact that the rooms furnished for class purposes at this school are unsatisfactory. The small rooms are inconvenient, while all of them are badly lighted. We have no special recommendations to make, but it is your duty to see that these children are provided with better classrooms.

CUMMINGS AVENUE SCHOOL.

This building is in a good state of repair, but unfortunately it was so planned that it is almost impossible to add to it without practically rebuilding it.

GORDON SCHOOL.

This building is in good repair, but, as with all the other buildings erected about the same time or previously, it was badly planned. It is lighted from two sides, forcing the teachers to face the light.

GUTHRIE SCHOOL.

This is a good type of building, but unfortunately was not designed to face the proper direction. At present nearly all the classrooms get only the north light. Had this building faced the east much better conditions would prevail in the classrooms. This building deserves commendation because it was planned originally so that additions can be made at a minimum cost without disturbing the architectural unity.

The remnants of the old building which burned should be removed as soon as possible, as it is now unsightly and of no use.

The toilets are well made, but unnecessarily large; the stalls should have been placed against the walls instead of back to back; this makes half of them quite dark. The urinals were not set with the proper slope, and the floors will tend to saturate with urine and become odorous. This defect should be corrected at once.

A. B. HILL.

This is a good building, and well placed on dry ground. Some of the desks need resetting so as to get the light from their left as the children occupy their desks. The cement work in several parts of the building is not up to standard, and is in need of repair. There is a leak in the eighth-grade room and in one or two other rooms. These should be attended to at once else the plastering will fall.

We found the building in acceptable sanitary condition.

IDLEWILD SCHOOL.

The four portable buildings located in the rear of this building are crowded entirely too close together for the sake of ventilation and general convenience. While these portable buildings are in a fair state of preservation they are not good types and no more like them should be purchased. The stoves in these buildings are without jackets and rusty. If these are to be used another winter they should be surrounded with a jacket so as to distribute the heat better and to prevent those near the stove from becoming overheated.

The boiler room in the main building should be fire proof. The building as a whole was neat and clean with the exception of some useless junk in the basement.

The toilets should be put into good condition and the walls cleaned.

LEATH SCHOOL, NOS. 1 AND 2.

If building No. 1 is to be used for any length of time an entirely new heating plant should be installed, for the present heating system is insufficient and somewhat dangerous. This building is a real fire hazard.

The boys' toilet in this building is both insanitary and inadequate. It should be torn out and a complete set of modern toilets installed to accommodate both buildings.

The basements of both the present buildings should be reconstructed. The fresh-air rooms are dirty and the foul air from the basements can get directly into the classrooms.

Much junk was found everywhere in the basements, all of which should be removed as soon as possible. Rats are also in the building and are not only dangerous but a menace to health.

LEATH ORPHANAGE.

The only suggestion we have to make concerning this school is that teachers should be more careful in the placing of the desks.

LENOX SCHOOL.

The roof and gutters of this building need immediate attention.

In a number of the rooms the desks can be better arranged for the advantage of the children.

The window shades are in bad repair and should be looked after immediately.

In this building we found fire-screen doors at the foot of the stairways which were doubtless placed with the best of intentions. We wish to say, however, we believe they are entirely useless, and the rather heavy expense incident to their purchase represents a mere waste. The theory of these doors is this: They are supposed to shut off the main buildings and the halls from the stairways so that children may use the stairway without danger of being cut off with fire from the main part of the building, but this theory will not bear any thoughtful consideration. If these doors are to be kept shut all the time, and they are useless if they are not, how are the children to get out in case of fire, even to the stairway?

Strange to say, in the girls' toilet here there was much disgraceful writing, while the boys' toilets were comparatively clean. It is only just to say that both of these toilets were in sanitary condition.

The difficulty of heating the second floor is doubtless due, first, to the lack of radiation in these rooms, and, second, to the fireproof doors above mentioned, which when closed prevent the heat from the lower halls going up the stairway. If these doors were removed or kept open we believe the upper rooms would be more acceptable in cold weather.

MADISON HEIGHTS SCHOOL.

Here, as in most of the older buildings in the city, the old type latrines are used, but these were unusually clean and free from odor. Many of the seats were broken and need immediate attention. The toilet rooms for both boys and girls were badly defaced with scribbling; much of it obscene.

The drinking fountains, as in nearly every building in the city, are set at the proper height for adults rather than for children.

Here, as in a number of other school buildings, the old-time platform in the classrooms still obtains. They should be eliminated as soon as possible. They are in the way and serve no useful purpose.

The level of the floor in the boys' toilet should be raised so as to drain properly into the slot in the urinal, and the vulgar writing in both toilets should be obliterated.

MAURY SCHOOL.

This building is nicely placed on a fairly good-sized lot, but the terrace should be sloped so as to drain the water away from the building. Now the walls are wet from surface water. The roof has been leaking, or is leaking, and the plastering needs repairing.

Some of the shrubbery should be cut away from the walls of the building so that they may dry out and all the waste paper scattered over the ground should be cleaned up.

MERRILL SCHOOL.

The toilets for both boys and girls are inadequate and insanitary. Strange to say one of the toilets has no outside light and no direct ventilation. Such conditions should not be permitted to exist.

The school rooms are lighted from two sides, which is very hard on both pupils and teacher.

OPEN-AIR SCHOOL.

This is a splendid single-room open-air building. It is to be hoped the board of education will watch results of the work here very carefully for when this is done they will doubtless decide that more open-air schools should be constructed in various parts of the city. The building was well kept and altogether desirable.

It would be a good policy to provide open-air rooms to all the large buildings in the city.

PEABODY SCHOOL.

One of the portable buildings used at this school has been set so as to get the north light instead of the east or west. If this building is used another year it should be faced about to get the proper orientation.

POPE SCHOOL.

The boys' urinal in this building we found quite odorous. This is due to the fact the slot outlet is higher than the floor and the urine has a tendency to soak back into the cement floor. This could be corrected at very small expense.

There are fine playgrounds located at this building.

There is too much junk in the basement. This ought to be cleaned out for it is always dangerous and clutters things up.

This is a good type of building and the additions are in good condition.

RIVERSIDE SCHOOL.

This building is badly placed with reference to noise and possible dust from the spike factory in the immediate neighborhood.

The lighting in many rooms is inadequate; here again the mistake of bilateral lighting was made.

Many of the desks in the building are rickety and badly adjusted; very large numbers of them should be reset and properly spaced.

There is an excellent gymnasium and playroom connected with this school. The floor of this gymnasium should be shellacked and waxed, for it is beginning to wear badly.

The areaway to the door of the furnace rooms are disgracefully dirty. There seems to be no outlet, and they were partly filled with water and paper and bits of bread, making a very disreputable appearance. These should be drained and covered at once.

The clothes hooks here as in many of the other buildings were set at a height to suit adults, and hence out of reach of the little folks.

ROZELLE SCHOOL.

This is by far the best grammar school building in the city. It is well planned, and in the main well built. Cement work in the basement is not so good as it might have been; the toilet rooms in this building were in splendid condition, but unnecessarily wide. The seats here as in all the other buildings are of the same height and really of adult size.

The board is to be commended for introducing shower baths in this building, although in the boys' room no provision has been made to hang up their clothes.

It was unfortunate that the architect set the windows too near the floor. As a result the children are going to be troubled uselessly as long as this building lasts.

This building is so well adapted for its purpose and so much more thoughtfully planned than any others in the city it can in the main be used to illustrate the best principles of school architecture.

Greater care should be exercised in the handling of ink, for the floors are becoming badly stained.

SMITH SCHOOL.

This building is by no means fireproof and should be guarded with great care. Quite a bit of "junk" was found in the basement, which should be removed at once.

Outside toilets were clean and free from odor but are not sufficiently shielded from the classrooms above.

The drinking founts were made of small pipes with elbow and faucet. They are not a bit more sanitary than common drinking cups.

In a number of rooms the desks should be reset so that there will be less space between desk and seat. Many of them are now set at a plus distance, when they should be at a minus distance.

The classrooms were found as neat and clean as conditions would permit.

SNOWDEN SCHOOL.

This building was set on ground entirely too low and as a result the woodwork in the basement is now rotting and the walls are damp.

The girls' toilet room is especially dark and wet. The shrubbery in front of it should be cut away to let in the sunshine.

The building is of a rather good type and is being well kept.

ST. PAUL SCHOOL.

Both boys' and girls' toilets in this building are inadequate and in very bad condition.

The basement should be reconstructed and modern plumbing and toilets installed.

The walls should be cleaned and tinted with light color.

The basement ceiling in connection with the furnace room and cold storage should be rendered fireproof at once.

VOCATIONAL HIGH SCHOOL.

The basement floors should be cemented all over at once. Much "junk" in the way of broken or supernumerary desks, pipes, gymnasium material, old batteries, and other litter was found in the basement. These should be removed and basement cleaned up.

The toilets are the old-fashioned latrine type, set back to back, in dark and filthy rooms; seats wet and dirty, and in very unsanitary condition.

The walls of the schoolrooms should be retinted a light color.

The bayou in the rear of the school should be inclosed in an aqueduct as it is now filthy and unsightly.

JEFFERSON STREET SCHOOL.

The seats in the present room should be arranged to face the east instead of the south. The walls should be retinted with a light color; the green now tending to absorb too much light. Boys' toilet in bad condition and should be corrected at once. The building was clean, but schoolrooms have insufficient light.

COLORED SCHOOLS.

CHARLES AVENUE SCHOOL.

This school is housed in two old miserable shacks. The rooms are dark and the floors rotten. The buildings should be condemned at once, as they are unfit for occupancy of any kind.

CARNES AVENUE SCHOOL.

We found the basement of this building full of all sorts of junk and in a very insanitary condition.

When the former hot-air system of heating was replaced by a steam system the hot-air ducts were cut off from the furnace but have been left open so that the dust and dirt arising from the furnace as well as the bad air goes directly into the classrooms and halls. We can not understand why this has been permitted.

Directly in the rear of this building the so-called county morgue is situated. In the neighborhood also are kept many horses, and the whole vicinity is saturated with the odor of this condition, and millions of flies are breeding to torment the neighborhood. The health authorities ought to see that this nuisance is eliminated.

This building is capable of much additional use if the environment were made more acceptable and everything put in good condition. Better janitor service should be demanded.

We suggest that some additional windows be introduced into some of the rooms to provide more light.

GRANT SCHOOL.

The toilets in this building are also inadequate and badly placed, and we found them in an insanitary condition. In fact, it would be impossible for the janitor to keep them neat and clean. Urinal troughs are too small to accommodate the boys, and consequently they use the floor.

The drinking fountains in this building, as in nearly all the other buildings, are badly set and mostly insanitary.

The furnace room is too low for the drainage and consequently is wet and nasty. The area ways outside the building are stopped up with dirt and filled with water, and of course furnish breeding places for the mosquitoes.

Three of the large rooms and one small room have the desks set with the backs of the children to the right instead of to the left. These should be rearranged.

GREENWOOD SCHOOL.

This building is badly placed with reference to the railways and manufacturing establishments of the neighborhood. The classes were crowded, and if this building is to be continued in use additional classrooms must be provided. The toilets are inadequate and of the antiquated type.

KLONDIKE SCHOOL.

The building is heated by badly cracked unjacketed stoves. The building is in danger of catching fire from these stoves.

The building is of an old antiquated type, in bad repair, and should be abandoned as soon as possible. We do not believe that it would be wise to undertake to reconstruct or make additions to this building.

KORTRECHT HIGH SCHOOL.

The outside toilets in this school are quite inadequate and in very poor condition; many of the seats are broken.

We found the basement full of junk of all sorts. This should be removed at once, for the building at best is a fire hazard.

In this building, as in several others, there is a definite provision whereby foul air from the basement is conducted directly into the classrooms and halls. The janitor said the intake windows had never been opened. Such conditions indicate lack of supervision and direction.

This building occupies a very bad situation between two railway stations; it is noisy and smoky and dirty. The whole atmosphere of the place is one of lack of care.

KORTRECHT GRAMMAR SCHOOL.

This building is very badly placed, because of its close proximity to the Rock Island freight depot. It is badly crowded and the rooms in the central part are dark. These can be remedied by introducing more windows.

The basement is wet and in bad condition. It should be looked after at the earliest moment.

Outside toilets were foul and insanitary. The dump is not set to flush often enough.

In the older part of the building new sashes are needed.

The basement should be thoroughly cleared of all the junk, and especially the chickens under floor.

LaROSE SCHOOL.

This school represents about the worst situation in the city of Memphis. Elsewhere recommendations have been made concerning this particular school. Certainly it would be worse than disgraceful to continue conditions now existing there.

PORTER SCHOOL.

This is an old one-story wooden building of nine rooms, with the addition of two portables on the ground.

The toilets are bad and should be reconstructed and made sanitary.

The shades to the windows are worn out and should be replaced with new shades at once.

The stoves should be jacketed and the foundation to the building should be inclosed to make it more comfortable in extremely cold weather.

Several of the rooms in this building need more windows, which could be provided without great expense.

The plastering needs repairs and the roof is leaking; in fact, the whole building needs a thorough going over.

VIRGINIA AVENUE SCHOOL.

This is a very old building, badly crowded, and situated immediately between the Rock Island and Frisco railroads. It is on low ground and in a very insanitary condition. The classrooms in the basement are totally unfit for children.

Window shades are lacking in many of the rooms, and what there are are mostly worn out.

The toilets are inadequate and insanitary. They are unfit for anybody to use.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 2

I. The Elementary Schools
II. The High Schools

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior,

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*

Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*

Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*

Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*

Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*

Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*

Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*

Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*

F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*

John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*

Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*

George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

CHAPTER I. THE ELEMENTARY SCHOOLS.

CONTENTS.—I. The kindergarten. II. The primary grades—The child's interests represented in the course of study; units of interest in the child's environment; reading; a plan for phonics; spelling; language; arithmetic; geography; the problem-project attack. III. The grammar grades—history teaching; geography teaching; arithmetic teaching; the aims of arithmetic; a minimum course; the results of the Courtis test in arithmetic; results of the stone reasoning test; reading, language, and literature; results of the silent reading test; grammar in the elementary schools; teaching spelling; results of the Ayres' spelling test; music; nature study; industrial arts; vision of teaching staff; home study; examinations; time schedule; daily program; school excursions; school equipment; discipline; summary of observations and recommendations.

I. THE KINDERGARTEN.

The kindergarten is no longer an experiment in education, but is an integral of all progressive school systems in this country. According to reports received by the Bureau of Education for the year 1916, 1,228 cities have public-school kindergartens, and almost every State in the Union has permissive kindergarten legislation.

The inclusion of the kindergarten in progressive school systems is based on the modern conception of education as a process of development rather than a system of mechanical training. The impulses and instincts and interests of the young child form the basis for the course of study, rather than instruction from books which comes later in his school life. Ideas are necessary to understand books; ideas are gained through the senses, our first teachers. The kindergarten opens the child's eyes to the world about him through excursions and visits to the blacksmith's shop and observation of other workers. The child gains skill with his hands by learning to use many kinds of material. His ear is trained through songs and response to the piano in games and rhythmic activities. By means of stories and oral conversation he enlarges his stock of ideas and increases his vocabulary; and in all these kindergarten activities he is gaining power of attention, habits of obedience, practice in expression and ability to work in a group. These habits and skills are basic in all school work, and thus the kindergarten forms the transition from the home to the organized work of the school.

The highest percentage of retardation is in the first grade in schools all over the country. The natural inference is that children in the first grade have been placed too quickly in a highly organized situation. In Buffalo, N. Y., so many children had to repeat the work of the first grade, that it was found necessary to remedy this condition, and as a result, kindergartens were opened in all elementary schools.

A study of the effect of the kindergarten in lessening the number of repeaters was made by a committee, appointed in 1915, of the superintendents and school boards branch of the Michigan State Teachers' Association, reported by Berry. In 19 towns without a kindergarten the percentage of repeaters, all grades considered, is 28.7 per cent greater than in the 75 towns having kindergartens; while in the first grade, taken by itself, the table shows that the percentage of repeaters in the towns having no kindergartens exceeds the towns having the kindergarten by 69.5 per cent.

The annual report of the board of education of Louisville, Ky., 1916–17, contains a recent study made in two schools of that city:

> Two studies of the problem, Does the kindergarten tend to prevent retardation? were made in two schools of the city in which there have been kindergartens for a period of years sufficient to test the progress of the child from the kindergarten through the eighth grade. These studies involved 959 children.

Salisbury school study—January, 1917.

Total number of children in school	525
Total number of children who have had kindergarten training	170
Total number of children who failed	36
Total number of children who had kindergarten training who failed	5
Total number of children who are retarded	197
Total number of children who have had kindergarten training and are retarded	29

Average difference in ages from 1–B through 8–A grade, five months.

Conclusions of Salisbury:

32 per cent of the number present attended kindergarten.
7 per cent of the number of children belonging failed.
3 per cent of the children who had kindergarten training failed.
31 per cent of the enrollment are retarded.
5 per cent of the kindergarten-trained are retarded.

Isaac Shelby school study—February, 1917.

Total number of children in school	434
Total number of children who had kindergarten training	235
Total number of children who failed	61
Total number of children who had kindergarten training who failed	12
Total number of children who are retarded	112
Total number of children who have had kindergarten training and are retarded	29

Average difference in ages from 1–B through 8–A grade, 4.6 months.

Conclusions for Isaac Shelby:

54.1 per cent of the number present attended kindergarten.
14 per cent of the number belonging failed.
5 per cent of the kindergarten children failed.
25.8 per cent of the enrollment are retarded.
12.3 per cent of the kindergarten children are retarded.

Conclusions for both studies:

The kindergarten tends to prevent retardation.

The kindergarten child is more apt to remain in school.

The kindergarten child is less liable to fail.

The kindergarten training is equal on the average to a gain of between four and five months of school life.

The foregoing studies are significant, for they indicate that the kindergarten is an important factor in reducing repetition in succeeding grades and especially in the first grades. It exercises this influence, doubtless both directly and indirectly; directly in the sense that such training tends to fit a child for quickly "finding himself" in the usual work of the school; and then indirectly by keeping children out of the first grade until they are more mature. While the kindergarten helps to solve the problem of retardation, this is not the primary reason for its becoming a part of every school system; there are values which do not lend themselves to statistical formulation. The kindergarten is concerned with the spirit and content of education, and its object is to help the child live his life to the full in the earlier stages of development which are recognized as the most important years of the child's life. The way a child begins school is of great significance, and the kindergarten has proved its value as the introduction to organized education. Every child should have the advantage of kindergarten education.

II. THE PRIMARY GRADES.

In examining the course of study in the primary schools of Memphis, during a series of observations in their classrooms, a wide variation becomes apparent in the outline of the work as printed and distributed to the teachers and the actual schoolroom practice. Almost without exception the suggestions for the lower grades are ignored and other material and procedure substituted for them.

This deviation from the course of study has not strengthened the work of the school, since the best of the original course has been lost and many of its defects given prominence. Any course of study may easily become "a mere scrap of paper" unless it is vitalized by the supervisor and the teacher through their initiative. Perhaps the most pertinent question we can ask concerning the primary schools of Memphis is, How may the primary teacher take the present course of study and connect its educational principles with the child's interests in such a way that it will become a vital force in his development rather than the basis for a series of drills in formal discipline?

THE PRIMARY CHILD'S INTERESTS REPRESENTED IN THE COURSE OF STUDY.

READING.

Units of interest from the child's environment used as a basis of script vocabulary.

Board reading based upon units of interest covering subjects taught in the (primary) grades.

Definition and explanation of difficult words by teacher, followed by practical use in sentences by pupils.

LANGUAGE.

Language is the expression of thought in spoken and written words. In the first grade children should speak their own thoughts and reproduce orally stories told by others.

The primary teacher must encourage children to talk about the things in which they are most interested, viz: Pets, toys, games, pictures, holiday, etc. If possible the object should be before the class.

Reproduction stories should be short and within the comprehension of the class.

Poems to be memorized: A more or less critical interpretation should be attempted before requiring selections to be memorized.

Dramatization: The teacher may choose from the lists of Oral Reproduction Stories selections which she wishes to have dramatized.

Reproduction stories should be short and should center around one leading idea. The teacher should tell the story first, and after an open discussion by pupils and teacher the children should tell it.

NOTE: Picture stories, nature stories, and poems fully outlined for each month of the first three years of school.

INDUSTRIAL ARTS.

Let us not lose sight of the fact that the prime object is, better education for the child—the development of a keen industrial intelligence, the awakening of interest in work, and a feeling of sympathy for the workers of the world.

During the past five years the advantage of industrial exercises as methods of education has been fully demonstrated and the Memphis schools have been well equipped with sand tables, scissors, rulers, construction charts, etc., and practically all the teachers have become quite familiar with the processes, and full of the spirit of teaching the regular studies through hand work.

NOTE: Mass drawing, paper folding, clay modeling, weaving, fully outlined for each of the first three years of school.

ARITHMETIC.

Teach orally the value and use of pint, quart, nickel, dime, inch, foot, and yard; quart, peck; day, week, month.

Measure and compare quantity and size of familiar things, using tablets, ruler, and measures.

Apply the pupil's knowledge of number to the work in industrial arts.

Make a price from the near grocery and laundry. Let the children play store; buy, sell, measure every article, and make change accurately and rapidly to the amount of $1.

MUSIC.

Soft singing is the first principle in voice training. Careful attention should be given to pure and sweet quality of tone, and all harsh tones should be avoided.

Individual singing should be encouraged in all grades. The pupils should be taught to sing with expression, clear enunciation, correct pronunciation, and the meaning of the words should be carefully explained.

GEOGRAPHY.

Believing that the attention of children is most easily kept by the conversation lesson, I have in these lessons given the scope of the work rather than the exact language to be used. Pupils like to relate their experiences. Encourage them to do so. A simple question will cause a child to think. Strive to teach him to observe and to think. Action is sure to follow.

Provide as many pictures as practicable to illustrate the text. If properly conducted, an excursion to observe nature is valuable.

NOTE.—The mountains, rivers, soil and climate, farm products, minerals, manufactures, cities, counties, history of the State and city are given in outline as subjects of study for the geography of Tennessee.

PHYSICAL EXERCISES.

Ventilate the room properly, avoid draft, appoint window monitors. Exercising outdoors is of greater benefit to pupils than indoors; therefore move your class outdoors for exercising as often as the weather permits.

UNITS OF INTEREST IN THE CHILD'S ENVIRONMENT.

It is suggested that a survey of the child's environment by the teachers of Memphis would do much toward solving the problem of better primary schools in their community. Teachers in a general way are cognizant of these interests, but from personal knowledge they know very little. They should acquaint themselves with some, at least, of the industries and activities of their city and discover what forces lie behind the unusual prosperity and growth of Memphis. Then they should build upon these interests an up-to-date, progressive course of study, with a definite aim for every day of the school year closely connected with them. Every child in the school is associated in some way with these interests, through his home or his out-of-school life.

The centennial celebration of the founding of Memphis was in progress at the time the schools were inspected, and yet, in 160 recorded observations in the first three grades no reference was made to this event, except as a reason for a holiday or an early dismissal at the close of school. In one primary room the sand table has been utilized to represent the discovery of the Mississippi River, and while the work was well done from the standpoint of technique, a few questions brought out the fact that the work had not taken hold of the children in a vital way. If it had been used as a basis for reading and language, for the measuring of sizes and distances, as a motive for the different modes of expression, cutting, drawing, painting, modeling, and dramatization, it would have become an educational asset both to them and to their teacher.

The teacher will find abundant material for lessons in history and geography all about the city of Memphis and its environs upon which to base her reading and language. The De Soto Mound, from which the great discoverer first viewed the Father of Waters, is one of the most interesting historical relics of which a city may well boast. The fact that it was used by the Federal Army during the Civil War as a fortress adds much to its historical value. It stands to-day, as they left it, excavated in the center, and the redoubt thrown up, a wonderful monument, both to an earlier and to a later period of American history. Starting from this milestone, what lessons might be taught the child of the history of his country, what ideals of patriotism might be inculcated, and what appreciation of the civic forces which shape and mold the destinies of our Republic might be cultivated.

The library museum has a collection of Indian relics, taken from a mound a few miles south of Memphis and presented to the city by Mrs. Mason, which is one of the finest collections of its kind in the country. The librarian is well informed regarding the various types of pottery represented by this group and can give valuable information to any teacher who desires to utilize this material in her classroom.

Some of the best American literature that has been written deals with this locality and an earlier period of Memphis history. No more vital study could be made, both from the standpoint of classic English, and from that of the story value, than the all-absorbing narratives of Tom Sawyer and Huckleberry Finn as set forth by that inimitable writer of historical fiction, Samuel L. Clemens, familiarly known as Mark Twain.

The subject of cotton is one of vital interest to the people of Memphis, and no subject could offer greater possibilities to the teacher who is searching for suggestive material to use in the primary school. The cultivation and growth of cotton and its manufacture into cotton cloth, its use and economic value to the people of the South, as well as to the whole world, might well form the basis of a series of studies in natural science, history, literature, and industrial and domestic science through all the grades of the school. The by-products of cotton, the oil and the meal and their manufacture, offer rich material for lessons in physics and industrial science in prevocational schools. The domestic products and their substitution for more expensive materials, cottelene for lard and Wesson oil for olive oil, afford the domestic-science teacher an excellent opportunity to base her work upon the "units of interest in the child's environment."

In geography, the river which flows by the city and spreads out at the feet of the children of Memphis tells a wonderful story of running water. Building on this bank, and wearing on that, cutting a channel here, and piling up a sand bar there, it changes its course so frequently from one river bed to another and interferes so seriously with the commerce of Memphis that the Government spends millions of dollars each year throwing up defenses to hold the water to its accustomed course.

How much of this material was used in the grades in the Memphis schools? might well be asked. It is the purpose of this report to suggest its use in connection with the various subjects of study which will be reported in detail in the following pages.

1. READING IN THE PRIMARY GRADES.

Primary reading is taught throughout the first three grades in the same general way. The lessons are based upon the Haliburton Readers, the Primer, and the First and Second Readers. There were 48 recorded observations made in this subject in these grades, 31 in the first grade, 10 in the second, and 7 in the third. Only one lesson in the first grade was a development lesson from the blackboard, and this was based upon word study and not upon subject matter. In the third grade one class only was using the library books as a text in reading.

The method used in these lessons was uniform in all grades and was mechanical in the extreme. The class formed in line upon the floor and read in regular order down the line, one pupil reading a paragraph and the next pupil following, round and round the class until the selection had been completed. Whenever a child came to a word he could not pronounce, which occurred frequently in all grades, three alternatives were open to him. He was told to spell the word, or the teacher spelled it for him, or the teacher or another pupil told him what the word was. There was no use made of phonics as a means of acquiring vocabulary in any reading lesson observed.

Only four lessons, out of 63 observations in first-grade work, were given to the subject of phonics, and these were used as bases for the spelling rather than for the reading lesson. This shows how little attention this essential element in the reading process is receiving in the Memphis schools. The course of study calls for a long-drawn-out and desultory plan of phonetic training, extending through three years of instruction in reading, which, were it put into effect, would prove ineffectual as far as any real service to the subject of reading is concerned. In the first year the consonant sounds are to be taught, in the second the long and short sounds of the vowels, and in the third year the application of the sounds learned to the pronunciation of difficult words. How futile this scheme of teaching phonics becomes, and how wholly inadequate, can readily be seen. The vowel sound in any word is its essential element, without a knowledge of which the child is powerless to build even one word of his reading lesson, yet this element is not taught until the second year. Again, in the application of phonics lies its value, and this is deferred until the third year. It is evident that the teachers of Memphis have never used a real "sound" method of phonics, which may account for the disrepute into which this valuable aid has fallen and the lack of knowledge shown by the teachers of its value.

It is urgently recommended that a definite system of phonetics be adopted in the primary schools of Memphis, and that it be followed each day by the teacher with persistent effort until the reading in the lower grades is lifted to a higher level and the pupils have acquired that independence and initiative in this subject which they now so seriously lack.

A PLAN FOR TEACHING PHONICS.

The following plan for the teaching of phonics is one of the best that has been formulated and is submitted here as a suggestive outline for the Memphis schools.

Teach the 45 sounds which are the essential elements in the English language and apply them immediately to the reading lesson. It should take a pupil three or four months to master them, and then he will be able to make out for himself any phonetic work in the early reading books.

1. Teach the sounds of single letter:

Teach the short sound of the vowel, a, in combination with the final consonants, t, p, b, d, g, m, and n, in words like cat, cap, cab, bad, bag, dam, man. Teach the short sounds of the vowels o, u, e, and i, in the same way; then the intial consonants, c, f, j, k, r, s, w, and y, in words like can, fed, hat, jug, keg, let; and the final consonants, x, ll, ss, and y, in words like ax, tell, loss, my.

2. Teach combinations of letters representing single sounds or closely blended sounds, like the following: The long sound of the vowels in words like mate, hide, note, tube, and mete. Teach the combinations ce, ge, ck, ch, in words like the following: face, cage, tack, rich, chick, shore. Teach tch, sh, in words like match, ship, cash. Teach wh, th, in words like which, thick, this. Teach ee, oo, ai, ay, ea, aw, au, oa, oi, oy, ow, as in bee, moo, sail, say, eat, caw, haul, oak, oil, boy, mow; ou, ew, ie, ei, as in out, few, pie, field.

3. Teach single sounds for blends and diphthongs: ar, er, ir, or, ur, ang, ank, ing, ink, ong, ung, unk, as in arm, her, sir, nor, fur, hang, hank, sing, sink, sung, sunk; and qu, wr, kn, as in quite, write, knee. Teach dge, all, alk, ald, alm, as in badge, fall, talk, halt, bald, calm. Teach igh, old, olt, oll, ind, ild,

ought, aught, as in high, bold, colt, find, wild, eight, bought, caught. Teach w before the letter a, as in was, and the blends bl, cl, fl, etc., in words like black, cluck, fly; ble, as in table and similar words; ing, as in hiding; tion, as in nation; and sion, as in mansion.

THE ART OF READING.

Another phase of the reading process, and the ultimate aim of all our training, is the art of reading, the reading for knowledge and appreciation. This aim is reached by oral exercises in reading for the expression of thought and the cultivation of fluency and ease in reading, and by silent reading for the appreciation of what is read. "Everywhere have I sought peace," says the blessed Thomas à Kempis, " and have found it nowhere, save in a corner with a book," which well expresses what this term "reading for appreciation" means.

Very little of this type of reading is done in any of our schools and none of it, so far as observed, in those of Memphis. The teacher's aim for teaching reading must be changed before we can hope for better readers in our schools. It must be changed from a purely mechanical requirement to one of a social nature. From asking, " How many pages have been read?" " How many words have been mispronounced? " the pertinent inquiry must be, " What are the children getting from the books they are reading? " "Are they forming ideas as they read from the content of the reading matter? " or "Are they forming images of words, with no thought behind them? "

Too much can not be said in condemnation of this latter mode of reading. The child forms the habit of calling words, as he looks at the printed page, in these early years, which will stultify all his later reading. When he comes to read his history, his science, his literature, current events, or his daily newspaper, he must use a conscious effort to get back of the words on the page to the meaning, because he has not been trained to do this, and he will all his life be at a disadvantage in any kind of reading which he undertakes.

Why is it that the primary teacher invariably emphasizes this formal, mechanical type of reading and ignores the real business of reading? Perhaps she thinks, she hopes, that proficiency in one will carry over into the other. But this is not so. Any number of investigations and tests in this subject refute this assumption. One of these abilities does not transfer into the other. A pupil may be able to call any word in his reading book from cover to cover, and still be quite unable to understand what he is reading. Children do not read with ease and fluency, they do not understand, appreciate, and enjoy reading matter by instinct. They must be taught to acquire this skill just as they must be taught to recognize and to know words.

From the first reading lessons in the primer to the supplementary material in the third grade, the ability to read for thought should be cultivated. There are many ways in which this may be done, but it is never accomplished by emphasizing the form of the text in reading and ignoring the content. The recorded comments of the teachers in these grades as they were invariably given in the reading recitations are witness to the fact that the thought of the selection was not referred to or noticed in any way. There was no effort on the part of any teacher observed to determine what the child was thinking as he read. Her comments had to do altogether with the formal side of the process, as the following report from two of these lessons will show, since they are quite typical of all the reading, as judged from the observation of 48 classes.

The following is a verbatim report of a reading lesson in the first grade, with the Haliburton Primer as a basis:

Teacher. Now we're going to stand up and hold our book correctly. Alma read.

Alma. (*Hesitates.*)

Teacher. His—

Alma. His name is Bun. (*Hesitates.*)

Teacher. Bun has not, —

Alma. Bun has not a white spot on him.

Teacher. Bun, three Buns, go ahead.

Alma. Bun, Bun, Bun, here is an apple.

Teacher. Take it up, Elmer.

Elmer. (*Hesitates.*)

Teacher. How, —

Elmer. How white he is.

Teacher. Take it up, Ruby.

Ruby. A pin. (*Hesitates.*)

Teacher. Pan, pan. Turn over and take it up. Hold the book correctly. Jennie, take it up.

Jennie. (*Hesitates.*)

Teacher. You and Max, —

Jennie. You and Max can make it.

Another report taken at random from the observation records on reading shows how general this method has become in the primary schools.

Pupil. (*Reads.*) Jit is Grace's hen.

Teacher. (*Spells.*) J, e, t, Jet. What color is jet? What color is Grace's hen? (*To class.*) Tell him.

Class. (*In concert.*) Jet.

Pupil. (*Hesitates.*)

Teacher. Next, see if you can read it.

Next Pupil. (*Hesitates.*)

Teacher. John had too much parade yesterday, didn't you, John?

John. (*Meekly.*) Yes'm.

Teacher. Next read.

Pupil. She is a —

Teacher. Tell him the word

Class. (*In concert.*) Mother.

Pupil. She is a mother hen.

Pupil. Grace said, "Come and see Jet's chick's."

Teacher. What did we say about that little mark over a word? Apostrophe. All say it in concert.

Class shouting. Apostrophe!

The teachers are not wholly responsible for this formal type of reading. They apologized frequently for the mechanical nature of the reading exercises by explaining that the preparation for the yearly examinations made the drills imperative, as the children were to be examined in those particular books, and must know them thoroughly. In many of the reading classes the children read too well, as judged by the ordinary standards of the schools, and investigation revealed the fact that the selection had been memorized, and that the pupils read as well with their books closed as with them open. If a child was asked to give the thought of the paragraph that had been read by another pupil, he invariably repeated the text, word for word, as it was found in the book.

UNITS OF INTEREST IN THE CHILD'S ENVIRONMENT AS A BASIS FOR READING.

Suppose a reading lesson is given to this grade that is based upon some interest in the child's environment. Take the subject of cotton, for instance. The teacher stands at the blackboard, chalk in hand, and the lesson proceeds as follows:

THE STORY OF COTTON. (MONTH OF APRIL IN TENNESSEE.)

Teacher. How many pupils in this class have been out in the country recently?

Pupils. (*Responding with hands raised or with the reply.*) I have, I went last week, etc.

Teacher. What did you see, Jennie, as you drove along the road?

Jennie. I saw a farmer plowing.

Teacher. Why was he plowing, John?

John. So he could plant his seeds.

Teacher. What kind of seeds do you think he intended to plant?

Pupil. Corn or cotton.

Teacher. Let us talk about the cotton seeds he plants in his field. How many of the class have seen cotton seeds?

Class. (*Hands raised.*)

Teacher. (*Showing a handful of cotton seeds to the class.*) Tell me where these seeds grew on the cotton plant.

Pupil. They grew in the seed pod.

Teacher. What was on the seeds before they were cleaned?

Pupil. Cotton was on the seeds.

Teacher. Why did the seeds have cotton around them?

NOTE.—Here is a point of departure for several units of lessons:

1. The teacher may take up the use of cotton to the plant and a detailed lesson on the dissemination of seeds may follow. The outline from the Committee of Ten is a good one to use in this connection—seeds that fly, seeds that sail, seeds that fall, and seeds that stick.
2. The subject of growth of cotton in the field and its cultivation, the planting, hoeing, thinning, cultivating, and finally the harvesting of the cotton crop.
3. The use of the seed, its manufacture into oil and meal, and some of the economic values of the products may be introduced here, and worked out in detail in the number classes.
4. The use of the cotton fiber, its manufacture into cotton cloth, and some of its economic values, wages in a cotton mill, etc.
5. The history of the cotton plant, its migration from India, and its prehistoric use as found in the ruins of ancient cities.
6. Geographical areas in which cotton is grown and climatic conditions under which it thrives.

The topics for these lessons are given below, and should be selected with reference to the grades in which they are given:

How Nature Plants the Cotton Seed.
    Dissemination of seeds.
How the Farmer Plants the Cotton Seed.
    Modern methods of planting cotton, development of.
Hoeing Cotton in the Field.
    Boys and girls at work in a cotton field.
Cultivating Cotton.
    Modern methods of cultivating cotton, development of.
Picking Cotton.
    The skill required in picking cotton. Why by hand?
Weighing Cotton.
    Modern methods, contrasted with primitive.
Ginning Cotton.
    Eli Whitney and the cotton gin.
Sending Cotton Away to the Mill.
    Transportation, by river and by rail.
Selling Cotton.
    Classing cotton, and cotton markets.
Cottonseed Oil.
    Its use, and method of manufacture.
Cottonseed Meal.
    Its use and its manufacture.
How My Gingham Dress is Made.
    Primitive spinner and weaver from India. Cotton mill in the United States.
Where the Cotton Plant Grows.
    Sea-island cotton and Tennessee cotton contrasted.
How the Aztecs Used Cotton.
How Martha Washington Wove Cotton at Mount Vernon.
Where De Soto Found Cotton When He Discovered the Mississippi River.

The teacher, as she develops these lessons, should use the question method, and should draw out the answers to her questions from the pupils in a spontaneous and spirited manner. Where items of information are necessary, she should supply them, in story form if possible, before she begins to formulate the sentences in the reading lesson. Two elements should be in the teacher's mind, limited vocabulary and repetition, as she works with the class in the formation of sentences.

HOW THE FARMER PLANTS HIS COTTON SEEDS.

plows	The farmer plows the ground.
harrows	The farmer harrows the ground.
plants	The farmer plants his cotton seeds.
plants	The farmer plants his cotton seeds with a planter.
is like	The planter is like a buggy.
is drawn	The planter is drawn by a horse.
has	The planter has a seat.
sits	The farmer sits on the seat.
drives	The farmer drives the horse.
has	The planter has a box.
is full	The box is full of cotton seeds.
drop	The cotton seeds drop from the box.
drop	The cotton seeds drop onto the ground.
are planted	The cotton seeds are planted.

Phrase-exercise.

The farmer
the ground
his cotton seeds
with a planter
like a buggy
by a horse
on the seat
from the box
onto the ground
a buggy
of cotton seeds.

Phonic exercises.

p l ow s	s ee d s	pl a n t s
c ow s	n ee d s	sl a n t s
r ow s	d ee d s	ch a n t s
b ow s	f ee d s	p a n t s
m ow s	h ee d s	r a n t s
l i ke	dr aw n	s i t s
h i ke	br aw n	b i t s
M i ke	d aw n	f i t s
p i ke	f aw n	h i t s
str i ke	l aw n	l i t s

SEAT WORK IN READING IN THE PRIMARY GRADES.

All the observations of seat work in the first grade point to the fact that this form of activity is confined wholly to the building of words with letter cards. In the first school visited the pupils in the first and second division were working at their seats building letters with these cards, which were being copied from lists of 50 words on the blackboard, evidently representing a review of the term's vocabulary.

As soon as the children came to school in the morning they began this work with the letter cards. They worked, without change or rest, on this form of seat work from 8:30 to 10:30, and then were excused for recess. This gave the teacher of the room an opportunity to continue uninterruptedly the reading lessons of the lower group, and saved her the trouble of preparing material from day to day that would be new and interesting to the pupils and progressive in its nature.

A more deadening process than this can hardly be imagined. when one considers the monotony of the daily repetition of this activity. These children had outworn, long ago, all the educative value of this exercise, and were only marking time to relieve the teacher of responsibility.

It has been reported that $2,000 was spent on this equipment of letter cards by the school board of Memphis, while the number of reading books in the classes was so limited that no class was fully supplied, and no extra copy found in any room with which to supply a visitor.

The word-building exercise, so often repeated, leads to careless habits and to defective impressions of word forms. A record was made of the finished work of a 1–1 class, which shows conclusively how faulty their visualization must have been, as they seemed to be perfectly satisfied with the results of their attempt to copy 10 words from the blackboard.

Lesson in word building in a first-grade class.

Words.	Pupil's work.								
	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.
stop	stoq	ssq	stop	stop	pstoq	stop	stop	stop	crisfp
ball	qall	dall	qoop	pall	ball	dall	dOll	ball	aynGtely
toss	toss	tos	rmt	loss	toss	toss	toss	toss	cincLYE
bounce	cownce	Lounce	ceh	Lounce	dounce	dounce	dounce	pbunce	coneLYE
catch	catch	Icat	cat	ocatch	loCatCH	cat	locatch	catch	AkTeFN
dog	cog	doy	pog	gop	pog	dog			
boy	gOy	dog	poi	pog	poy	boy			
girl	girl	girl	gly	girl	girl	oirl			
run	run	run	ctr	run	rim	run			
me					em				

This record of nine pupils is quite typical of all the work of the class. About one-third of the words attempted are correctly represented by the cards. Capitals were used indiscriminately, and letters were frequently inverted. This is not an exaggerated instance of the effect which a long-continued use of these cards has upon a class of children in the first grade. The fault lies with the teacher, and her failure to prepare, from day to day, a variety of activities for seat work which shall be educative and shall provide in some way for the exercise of the child's initiative.

2. SPELLING IN THE PRIMARY GRADES.

When a child has learned to pronounce all the words in his reading lesson he has mastered only part of it, as has been already pointed out. He must further acquire the ability to understand sentences. This is also true of the spelling lesson. When a child has learned to spell a list of words he has acquired only part of the power needed to spell correctly. He must learn to spell these words in sentences, and he must be trained definitely in this latter requirement. For one of these abilities does not necessarily transfer to the other, except, as Dr. Wallen has demonstrated in his investigation of the subject, attention is given to the meaning of the word and to its use in sentences when the word lists are being taught. This is what he says: "If the column drill includes much emphasis upon meaning and considerable dictation practice, we may naturally expect that the results will transfer to composition work, and," he adds, "this is exactly what the tests showed."

This fundamental principle of teaching spelling was aptly illustrated in the case of a little girl who took the standard test in spelling in the fifth grade in the Memphis schools. Her mother said:

"Alma stood 100 in her spelling test, and only 85 in her history examination, because she misspelled so many words. She can spell her regular spelling lesson from the book perfectly, but when she comes to write a letter it is full of misspelled words of the simplest kind."

The same connection must be made here as in the reading lesson, the connection between the sight word, the spoken word, and the idea which the word represents. When a child learns to spell from visualizing the word, and the sound of the word is ignored, often no transfer is made from the sight word to the spoken word. The child depends upon the mind's eye to help him out if he is in doubt about the spelling of a word. In other words, he sees the page of the book, the list of words, the relation that one word in the list has to the position of another, if he learns his lesson in this way. Then when he comes to use those words in another setting, in a different relation one to the other, his memory fails him and he has nothing to fall back upon.

Suppose he learns to spell by the sounds of the letters in the word, then a slow pronunciation of the word suggests to him its letters and their regular order in the word. "But," some one says, "how about the phonetic words that do not follow the regular sounds in the word?" It is true, phonetic words require special drills, but they, in turn, follow definite rules which the child soon comes to recognize, and the slow pronunciation of even these words suggests some of their letters to the phonetically trained ear. And phonetic words do not need emphasizing. Most teachers give drills indiscriminately upon all words alike, those that the pupils already know and those that are phonetic, as well as those that require especial attention. What a waste of time! There are only 13 per cent of the words in the English language that are not phonetic, and those alone need to be emphasized in any spelling lesson as far as the letters in the words are concerned.

Let us insist upon the sound of the letters in spelling, let us be sure that back of the sight is the sound, that the one suggests the other, and that a close connection is made between the one and the other. Then let us see to it that back of both the sight and the sound in the child's mind is the idea which the word represents. Let the column drill include much emphasis upon meaning. Then the subject of spelling will be shorn of its difficulties and will become a social factor in the child's life. Then a child that can pass 100 per cent in his column test will not drop to 85 per cent in another subject because he can not spell "even the simplest words" when they are used in sentences.

3. LANGUAGE IN THE PRIMARY GRADES.

There were 15 recorded observations in language made in the primary grades, and these were of the same mechanical nature as the lessons in reading, geography, and arithmetic. Memory exercises in language in the primary grades are so unusual that they demand especial attention in this report.

One of these lessons was recorded as follows:

Teacher. Tell me the names of the months that are not abbreviated. What does it say in the language book about March and April?

Pupil. It says they can be, but its better not to.

Teacher. What two did she leave out? (*Class does not answer.*)

Teacher. You didn't listen. (*Class responds.*)

Teacher. Use a sentence and a contraction in that sentence. What is a contraction?

Pupil. I'll go home.

Teacher. If I were going to write the word "won't," how would I write the contraction? (*Pupil writes on the board.*)

Teacher. Tell me a sentence spoken to a person.

Pupil. Mary, have you your lesson?

Teacher. Where would you put the comma?

Pupil. After the word Mary.

Teacher. Give a sentence that has a person's name addressed in the middle of the sentence.

Pupil. Are you ready, Mary, to go to school?

Teacher. Where would you put the commas?

Pupil. Before and after the person's name.

Teacher. Marie, go to the board and write a sentence with a person addressed in the middle. James, put the person at the end. (*Pupil writes:* Marion, is this a fine school day?)

Teacher. Why comma? What is Marion? You may tell me one word in which you use a hyphen. What does the little rule in the language book say? What kind of word can not be divided? How many rules have you learned about capitals? I am going to ask some one to give me three, and some one else three, etc.

This lesson does not need comment, it speaks for itself. The subject of primary language has been so fully discussed in books of psychology and pedagogy, it has been taught so many years in the normal schools of Tennessee and elsewhere that this departure from established precedent is most unusual.

Primary language exercises should be oral in their nature and should train for fluency and ease in speaking, just as oral reading should do in reading. The bases for these lessons should be stories and poems in the best literature, detailed narratives in the history of primitive peoples, and informal conversations in nature study lessons. The language exercise should be free and spontaneous as the pupil reproduces the story or talks familiarly with his teacher. Formal grammar, even of the simple type given in the Memphis schools, should be deferred until a later year.

The primary teachers of Memphis should be given a detailed outline for use in their language classes and a definite time allotment for the language period. Then they should religiously fill that period with some language exercise each day of the school year. This work requires tenacity of purpose, careful preparation, and a vivid, forceful presentation on the part of the teacher. It requires a sympathetic attitude, one that will inspire the children to give, unconsciously and simply, their own versions of the stories, poems, narratives, and experiences which they have gained from the language period. These exercises should never take the form of memory drills, requiring the pupil to repeat like a parrot the rules of written composition from a book, and to reproduce, verbatim, the printed text of a story. These are the points to be emphasized: A definite outline; a steady purpose; and a continuous program. These are the first essentials in the training of little children in the art of oral expression. Outlines for this work are offered from many sources, but the spirit of the teacher is the motive power that shall make the work effective.

4. ARITHMETIC IN THE PRIMARY GRADES.

Arithmetic is a logical subject and lends itself quite naturally to a logical development. For this reason, often, the abstract—the formal, the drill element—is overemphasized, and the second phase of the subject, its social relationship, which should receive especial attention in the primary grades, is omitted entirely. This is true in the Memphis schools. In all the primary grades the children were adding, subtracting, multiplying, and dividing in abstract computation of numbers without reference to the use that children make of number in the everyday affairs of life.

In the 40 recorded observations of arithmetic lessons in the first three grades all were of the same general type, and in every room visited the blackboard gave convincing evidence of the mechanical work being done in the subject of arithmetic. The board was filled with series after series of examples to be worked by classes in their seats, and half of the pupils in the room were laboriously engaged in this process. For the first and second grades a series of this kind was set for a copy:

2/10 5/10 1/9 4/12 3/12 4/12

4	7	3	2	6	3	2	2
×3	×0	×3	×6	×1	×4	×4	×2

11	12	9	11	12	9	12	8
—9	—8	—6	—8	—4	—8	—9	—3

4	7	0	1	6	2	7
+5	+5	+9	+1	+5	+8	+4

½ of 0= ½ of 4= ½ of 2= ½ of 8=

Count to 50:

1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9
10	10	10	10	10	10	10	10	10

Often when a class had finished writing this lesson on pads of paper, the number boxes were passed and they were required to build the series with their number cards. In this way the study of number as an oral exercise was wholly eliminated and the power that is gained from oral expression, which should be especially emphasized by teachers in these grades, was lost to the children through a disproportionate amount of written work in number.

The recitations in number were drill exercises and the aim of the teacher was to cultivate rapidity and accuracy. One of the third-grade exercises illustrates the general procedure throughout the schools, as it is given below:

Teacher. Now you're going to show Miss ——— how beautifully you can answer. Anna, is that the way to behave? We have to make a hundred, every one in this class. How many are 64 plus 8?

(*Pupil makes two attempts and fails.*)

Teacher. Hands behind you; see to your toes.

(*Pupil makes a third attempt.*)

Teacher. What did you say it was?

(*Pupil tries the fourth time and fifth time and then gives it up.*)

Teacher. Lucile, tell him.

Lucile. 64 and 8 are 72.

Teacher. 44 and 8?

Pupils. (*Answering in order, down the line.*)
44 and 8 are 52.
33 and 8 are 41, etc.

Teacher. Hands behind you.

Pupils. 27 and 11 are 38.
46 and 8 are 54.

Here the visitor asked the children how they got their answers and various methods were reported. Some counted on their fingers, as they rather shamefacedly admitted. Others added by the rule of tens, as in the example, 46 and 8 are 54. One little girl explained her process in this way: "Forty-six and 4 are 50, and 4 more are 54." None of the children were using the method taught by the teacher, namely, the addition of units and tens in examples of this kind, which discovery caused her to exclaim with some vehemence, "These children have been trained all the way up, and they ought to know it, but this class is—I won't say what!"

In marked contrast to this recitation was one observed in the first grade where a distinct effort was made by the teacher to make concrete the extremely formal and abstract material she was required to teach.

Teacher. Tell me something that makes 10.

Pupil. 9 and 1. 8 and 2. 2 and 4.

Teacher. 6 and what makes 10? 8 and what? 9 and what? Take away 7 from 10.

(*Pupil fails.*)

Teacher. If I had 9 eggs in one nest and took 1 away, how many would be left? Make me a little story about it.

If I had 10 apples and gave 1 to John how many would I have left? Tell me that in a story.

How many twos in 10? Suppose I had 10 pencils, and put 2 in a box, how many boxes would I need to hold the 10 pencils?

NOTE: Here the teacher drew on the board the boxes and the two pencils in each box as the pupils dictated to her.

Teacher. How many boxes did I have? How many pencils in each? Let's put that down as a number story. (*Writes on the board:* 5 times 2 pencils are 10 pencils.)

Suppose it were apples; or pennies: 5 times 2 apples are 10 apples. (*Draws picture and writes:* 5 times 2 pennies are 10 pennies.)

Suppose I have a bank and put 10 pennies in it. (*Draws a picture of a bank with 10 pennies in it.*) Count how many pennies I have in the bank. 1 bank and 10 pennies. 1 times 10 pennies is 10 pennies.

Teacher. (*Gives a review.*) 2 times 5 apples? 5 times 2 pencils? 10 times 1 penny? 1 times 10 pennies? 2 times 5 dollars? 10 times 1 apple? 5 times 2 boys?

These are the new things we have learned this morning: 2 times 5 is 10. 5 times 2 is 10. 10 times 1 is 10. 1 times 10 is 10.

This is not an ideal way to teach number to children of the first grade, but is perhaps the best a teacher could do working under the handicap of the requirement for her grade. As has been already pointed out on another page of this report, the course of study in arithmetic recommends an application of these principles to various social uses with which the children are already familiar. In the matter of practical application, for instance, it suggests the following:

Teach orally the value and use of pint, quart, nickel, dime, inch, foot, and yard; quart, peck; day, week, and month.

Measure and compare quantity and size of familiar things, using tables, ruler, and measures.

Apply the pupil's knowledge of number to the work in industrial arts.

Make a price list from the nearest grocery and laundry.

Let the children play store; buy, sell, measure every article, and make change rapidly and accurately to the amount of $1.

How this important phase of the subject of number in the primary grades has been allowed to drop into innocuous desuetude and a system of abstract drills on formal arithmetic has been permitted to take its place is difficult to understand. It is recommended here that the present course for the first and second grades in abstract number be carried over to the third grade, and that much of the work now done in the third be left until the fourth year.

For the help of those teachers who have asked for some definite suggestions on this subject the following outlines are given:

OUTLINE FOR NUMBER WORK IN PRIMARY GRADES.

First step.—Let the children count objects in the schoolroom, on the grounds, in the fields and woods, at home, and everywhere, until they can count a few hundred with ease, and have gained distinct and lasting number concepts. Let them also measure and weigh till the ordinary units of measure and weight are thoroughly known. Let them find sums and differences of numbers of real objects by counting. In the same way let them divide smaller numbers into equal groups, and put the groups together again.

Do not attempt written or oral arithmetic nor the usual learning of tables until a sufficient amount of this work has been done by the children. It will be, as it so frequently is, a waste of time and breath.

Second step.—After having developed the number sense and formed definite concrete number concepts, *the next step is to learn to count by tens;* and this should be so thoroughly done that the child will ever after picture to himself numbers arranged in groups of tens, the tens into larger groups of tens, or hundreds, these into groups of ten hundreds, etc.

Third step.—Having learned to count as indicated in the first and second steps, *the next step is to learn to write figures.*

Fourth step.—Having learned to count by ones and by tens and to write numbers, and having done a large number of concrete problems in addition, subtraction, comparison, multiplication, division, and fractional parts, counting by ones of units, ones of tens, and ones of hundreds, using counters when necessary (it usually will be necessary at this stage), the children are ready to begin to learn those facts of combination and separation which will enable them to do their problems much more easily and rapidly than they have been able to do by the slow process of counting by ones. *The next step (fourth step) is to learn the 36 additive facts.* (Those facts used in addition, subtraction, and comparison.)

Fifth step.—Having mastered the 36 facts in addition, *the next step consists merely in the application of those facts in the solution of problems in addition, subtraction, and comparison, or problems of difference.* These will also give practice in counting and writing by tens, and will fix the process in mind. The problems should be as practical as possible, dealing with things and conditions familiar to the children rather than going beyond their experience or the powers of their imagination, which last is conditioned upon their experience.

Grouping these principles in school grades:

First grade—Steps one and two. Second grade—Step three. Third grade—Steps four and five.

Activities which hold number values that may be used as illustrative material for concrete work in arithmetic in primary grades are suggested as follows:

Number games. Playing store. Measuring pupil's height, weight, and strength. Records of birthdays. Records of daily temperature. Weather reports. Measuring involved in working out certain projects, like building a farm or a town on the sand table.

5. GEOGRAPHY IN THE THIRD GRADE.

In every third-grade room in the month of May in Memphis one may see on the blackboard a detailed map of the State of Tennessee. This map is drawn in outline, in all degrees of accuracy, depending upon the teacher's proficiency. The mountains, the rivers, and some of the principal cities are designated. On the board in another part of the room is a list of questions on the geography of Tennessee, which the pupils are answering in written language at their desks. These questions are uniform and give evidence of the fact that this work is directed by some one outside the corps of the grade teachers.

The recitation in geography is conducted generally by the question-and-answer method, the children having been prepared for the recitation by memorizing the questions and answers. One of these lessons is reported as follows:

Teacher. What State do you live in, Grace?

Pupil. The United States.

Teacher. Next.

Pupil. Tennessee.

Teacher. What kind of a word is Tennessee?

Pupil. It is a noun.

Teacher. What is it the name of?

Pupil. The country.

Teacher. How many States in the United States?

Pupil. Forty-eight.

Teacher. We want to find out where Tennessee is in the United States; Gertrude, locate Tennessee.

Pupil. Southeast part of Tennessee.

Teacher. Clara, locate Tennessee.

Pupil. In the southeastern part of the United States.

Teacher. Tennessee is in the southeastern part of—

Pupil. Tennessee is in the southeastern part of the United States.

Teacher. It is one of the United States. Everyone say that together.

Class (*in concert*). Tennessee is in the southeastern part of the United States. It is one of the United States.

Teacher. You're not keeping together.

(*Class in concert repeats.*)

Teacher. How long is Tennessee?

Pupil. It is 100 miles long.

Teacher. How wide is it?

Pupil. 100 miles wide.

Teacher. Then how long is it? It is longer than wide, isn't it?

Pupil. 400 miles long.

Teacher. How much longer than wide?

Pupil. It is one-fourth.

Teacher. Next.

Pupil. It is 300 miles longer.

Teacher. Class.

Class (*in concert*). It is four times as long as it is wide.

Teacher. Now we want to name the States that touch Tennessee. Begin.

Class (*in concert*). Kentucky, Virginia, North Carolina, Mississippi, Georgia, Arizona, Arkansas, Missouri.

Teacher. Name them in order, name the States north of Tennessee, etc.

(*Class responds.*)

Teacher. Correct. How many States north? South? East? West?

(*Class responds.*)

Teacher. Bound Tennessee. All together.

(*Class responds.*)

Teacher. What river separates Arkansas and Tennessee?

Class (*in concert*). Mississippi River.

Teacher. What lies east?

Class (*in concert*). Great Smoky Mountains.

Teacher. What separates Tennessee into three parts?

Class (*in concerts*). Cumberland Mountains, Tennessee River separates Tennessee into three parts.

NOTE.—The teacher goes to the board and sketches in the map of Tennessee.

Teacher. What separates the middle from the west?

Class (*in concert*). The Tennessee River.

Teacher. What separates the east from the middle?

Class (*in concert*). Cumberland Mountains.

Teacher. What do you mean by natural divisions?

Class (*in concert*). Different parts.

Teacher. That will do for to-day.

Even a cursory reading of this report discloses the fact that no thinking was going on in this class during this recitation. It is doubtful if the children connected the river, which lay just outside the door of the schoolroom, with the answer to the question, "What river separates Arkansas and Tennessee?" The work of this river, its importance to the people of Memphis, and to the continent of America, would be topics of vital interest to all of these children. The great resources of Tennessee, why the eastern part of Tennessee differs from the middle and western part, is important for the children to know and understand. Little is gained, undoubtedly, in these first lessons in geography from lessons of this kind. It is to be questioned whether an isolated map of any State should be the basis of study in beginning geography. An erroneous impression is made which may become a permanent one later, and the pupil may always see his State when he thinks of it, as the outline drawing he has so often observed on the board. First impressions, we are told, are apt to be lasting ones, and the child should be led to think of his State as he thinks of a beautiful landscape situated in the heart of the eastern portion of his country with a wonderful diversity of mountains and plains; rich in natural products; watered by many rivers; wealthy in fertile farms and prosperous cities; these should be the impressions formed in the child's mind, and memory exercises should find no place in these early lessons in geography.

6. THE PROBLEM-PROJECT ATTACK IN TEACHING PRIMARY GRADES.

Within the recitation itself a change is imperative in the presentation of the subject matter. There should be an effort made to motivate the lessons given and to create a real demand for the activities, which shall appeal to the pupil as well as to the teacher.

This problem-project attack in teaching, so called by Dr. Kilpatrick, of Columbia, names a method which has been used in the kindergarten since its beginning. It is emphasized at present in the upper grades in the teaching of geography. Unfortunate, indeed, for the primary school that it has not been able to borrow from the kindergarten one of the best of its educational assets—the purposeful act in reading. Imagine a class of children in our primary school reading for a purpose other than by the command of the teacher.

Yet, years ago, in the old Cook County Normal School, Col. Parker insisted that the purposeful act be the motive power in every unit of instruction. Children of every grade contributed toward the problems and helped with their solution. They recounted their experiences and these became the basis of their work in reproduction. A walk through the park, a visit to the museum, the discovery of a bird's nest, a tale of knight or hero, a piece of woodwork in the sloyd room, any or all of these supplied the motive for their reading, writing, drawing, or modeling, and created a demand for many forms of expression. They were eager to write their experiences for others to read, they delighted in reading that others might hear.

To discuss the value of this mode of attack would be superfluous here. Superficial motives have been used in the primary school almost exclusively, largely because the play of personality is more appealing to little children than to adult pupils. Numberless devices which hold a fictitious interest are used throughout the day by primary teachers to excite and hold the pupil's attention. Unfortunately, through our attempt to disguise the real problem from him we are in danger of losing his respect when he comes to a realizing sense of our duplicity.

The teachers of Memphis will be interested in an experiment in Teachers' College which demonstrates the possibility of creating a genuine demand for reading in a class of kindergarten children. Eight projects were used upon which to base the lessons. They are legitimate demands for learning to read, made upon the child by his environment in the kindergarten. The first is to mark the chairs and lockers, and the demand that every child shall know his own; the second is to tag the boxes of colored crayon; the third, the printing and reading of signs about the grounds and buildings; fourth, learning to read the titles of the pictures in the child's kindergarten book; fifth, pasting titles under the pictures in the Mother Goose book after learning to read them; sixth, reading the titles of pictures on the reflectoscope before the pictures are flashed upon the screen, and, seventh, completing the couplets of two lines of a rhyme after they have been cut apart. These projects are suggestive to the primary teacher who is seeking to teach reading by the problem-project method.

The building of the farm on the sand table is a project which has been frequently used in primary and kindergarten schools as a center of interest in the daily program. Such a study is rich in subject matter. From the art side it offers a wide field of selection. It possesses also a broad historical background and a voluminous literary content and presents numberless opportunities for the presentation of problems in nature study.

The activities of the farm are varied and suggest many projects for the primary grades. These farm problems make an especial appeal to the child because his larger interest in life lies in the matter of feeding. A close connection is easily formed between this interest in the consumption of food and the activities which produce it, and this affords excellent material for the problem-project type of instruction.

A similar project, the building of a town on the sand table offers an opportunity for concrete lessons in civic life through a study of the problems which the child must meet in his everyday experience. The town government, the laws of conduct in public places, and many of the facts concerning drainage, sewerage, and sanitation may be impressed by means of this mode of teaching. Wholesome forms of recreation may be suggested, and ways and means pointed out by which children in a town may help to beautify and improve its appearance, and to make it a pleasant place in which to live.

The choosing of a profession, a trade, or an occupation by a child who assumes some of the responsibility of the character he represents, even in play, must lead him to appreciate the service which the older members of his community render to the people with whom they live.

Projects of this kind, the farm and the town, have a many-sided value for the pupils and teacher in the primary school. They become a power in ethical training, they motivate the work of the school along the line of altruism, they unify the interests and vitalize the activities within the schoolroom wherever they have been used. It would be quite impossible in recitations of this kind to separate the information lessons from their social bearings, and the acquisition of modes of skill from their relation to the social uses to which they may be put.

Something more than educational conventions should interest us as primary teachers. Something more than the three R's should be required of us. Accumulation of information? Yes, but closely connected with the activities of life. Acquisition of modes of skill? Yes, but always the realization of their social uses. Broader than the schoolroom and wider than the school yard must be our platform. It must include the town and the country, the home, the shop, and the store and all that makes the child's environment. Come, let us live with our children. Let us together learn to do by doing, and let us learn to live by living.

III. THE GRAMMAR GRADES.

1. THE TEACHING OF HISTORY.

History instruction in the Memphis elementary schools amounts to little more than a memorization of the textbook and is apparently for the sole purpose of passing the final examination.

Frequently the surveyor followed the child through a recitation and the child would repeat the words almost verbatim and without very much understanding. One little girl said, "I don't know what it means, but I can recite it," when called upon in the fifth grade to explain the Missouri Compromise. The textbook used in this grade contains some excellent biographical material, but some rather difficult material as well, which the teachers, as a rule, have yet failed to neglect. They say they must teach it all for the examination. However, the examination questions failed to reveal that it was as necessary as the teachers thought. Suffice it to say that children of the fifth and sixth grades can not understand institutional and legislative history, especially when it is never explained adequately. Many of the teachers both in the white and Negro schools did not understand thoroughly what they were teaching and seemed on the whole to be limited to the information contained in the text. There were a few teachers, who, disregarding the textbook to a certain extent, were really teaching the children how to read and think in history, by presenting to them problems which challenged the children's interest.

Throughout the grades the work in history failed to connect with current happenings. Would it not greatly increase the interest in history if present-day American and world history be taken into consideration to lend interpretative value to events in our past national life? During one week of the survey the Memphis Centennial was celebrated. In no class visited by the surveyors was the remotest mention made of the most interesting history of the city. History that is worth while ought to interest the child and his teacher in the present.

There seemed to be no sense of evaluation in the treatment of topics, one fact apparently being as important as the other. The questions of the teachers were intended to get as accurate a reproduction of the text as possible. The questions in many instances were not suited to the age or ability of the class.

History is a social study if it is anything. No subject in the entire course of study offers as rich opportunities for interaction of the schoolroom group as does history. Moral questions are ever present in real history and civics instruction. Such questions open up to the class wide fields for discussion and debate.

The lives of Lincoln, Edison, Jackson, Lee, and Franklin are literally alive with situations that call forth judgments by the children as to the great moral virtues which these lives portray. Questions of civic importance can not be avoided by any individual. These are the centers around which to build the history instruction.

When history instruction is limited to finishing a book or covering so many pages, one may be certain that the great, abiding historical values and civic ideals are being neglected. When civic instruction is found only in the eighth grade, one may be sure that the pupils are getting civic information rather than civic training.

What is it that the teachers in Memphis are not doing that they could do to make history and civics training a vital factor in the lives of the future citizens? The teachers need a more social and civic attitude toward public affairs. The teachers need more historical and civic information. One cannot be a great musician without knowing music. The teachers need to utilize more concrete material, current events, daily papers, magazines, local history, and civic questions of local and national interest.

THE COURSE OF STUDY.

The present course of study in history in Memphis is as follows: History stories from grades one to four; American heroes, fifth grade; Tennessee history, sixth grade, as the regular reading work of that grade; American history in the sixth and seventh grades, respectively. The provision for history in the first six grades is entirely inadequate and ought to be reorganized. History as such should receive more emphasis in the fourth grade, and the sixth grade history ought not be so difficult as it now is.

We propose the following general outline as suggestive of the basis along which the history course should be reconstructed, but it ought not be considered as a complete outline but merely indicative:

Primary Grades.—Thanksgiving Day; Christmas; birthdays of Washington, Lincoln, Lee; Flag Day; Decoration Day; stories of the local community; State celebrations; early settlers and pioneers, organized in very simple form; Columbus.

The treatment of these stories should be almost entirely oral, and correlated with the oral language work.

Fourth grade.—De Soto's march across the Southern States and his discovery of the Mississippi; De Soto Park; Robertson, the founder of Nashville; John Sevier, the first governor of Tennessee; Daniel Boone; John Smith; Ogelthorpe and founding of Georgia; Davy Crockett in Tennessee and Texas; Sam Houston, in Texas and Tennessee; La Salle on the lower Mississippi; Raleigh in the Carolinas; Bienville in Louisiana.

Fifth grade.—Lincoln's early life; Washington's early life; Columbus's discovery of America; John C. Fremont and the Rocky Mountains; Lewis and Clarke Expedition; Hudson's voyage in the Half Moon; Cortez and Pizarro; Discovery of gold in California; Rogers Clarke and Northwest Territory; Hennepin; La Salle; Champlain; additional history of Tennessee.

Throughout the fourth and fifth grades European history stories should be woven into the course in history or in the reading. The following list is suggestive: King Alfred; William Tell; Robin Hood; David; Regulus; Cincinnatus; Douglas and Bruce; Roland and others.

Sixth grade.—European Beginnings and American Colonial Period: The more important discoveries and explorations largely from a biographical point of view; Virginia plantation life; Massachusetts and growth of self-government; Dutch in New York; Peter Stuyvesant; Tennessee in the Revolutionary War; William Penn and Pennsylvania; Benjamin Franklin and Philadelphia; Montcalm and Wolfe; general survey of colonies in 1763.

During this year it is recommended that a text of European history be used covering such representative heroes and topics as: Romans and Greeks, Alexander, Cæsar, Charlemagne, Crusades, Luther, Medieval town life, Puritans, Cromwell, Charles I.

Seventh grade.—Period from Revolution to Civil War: The work of the seventh grade is to be built around important movements, but linked as closely as possible to some striking figure in American history; Samuel Adams, Patrick Henry, and events leading up to the Revolution; Declaration of Independence and Thomas Jefferson; several important campaigns in the Revolution; Washington at Valley Forge; Franklin in France; John Paul Jones and the American Navy; Greene and Marion; Treaty of Paris; Expansion of territory during the Revolution; acquisition of Kentucky, Tennessee and the Northwest Territory; Hamilton and the Constitutional Louisiana Purchase; growth of industry in America; Jackson and democracy; slavery; expansion of United States to 1860; progress of invention; Tennessee history from admission to 1860.

During the seventh and eighth years contemporary European characters and events ought to be brought in at opportune times. Among these should be: Frederick the Great; Napoleon: Lafayette; Lord Clive; French Revolution; Watt; Victoria; Cavour; Bismarck; Franco-Prussian War; Colonization of Africa and Australia; the recent war.

Eighth grade.—Modern American Period: Lee, Lincoln, and Civil War Reconstruction; Tennessee since 1860; Railroad development; electrical invention, Edison, Morse, Field, Marconi; territorial growth since 1860; America's foreign policy; the tariff; the Great War and America's Policy under Wilson.

The civics work should be very closely correlated with the history throughout the school, but particularly so in the eighth grade, inasmuch as civics has become more of a formal subject by that time. (See chapter on Civic Education.)

As indicated in this outline, history in the elementary school must remain largely biographical, even though in the upper grades a chronology must be more or less developed and certain phases of institutional and developmental history must be made clear.

A textbook built on the biographical plan, supplemented by a large variety of supplementary historical readers, is essential in the fourth and fifth grades. In the sixth grade an elementary American history arranged in somewhat a chronological order, together with a text on European stories, is desirable. In the seventh grade and eight grade an advanced text, written from an unprejudiced point of view and organized on the basis of large topics, should be available. A Tennessee history text ought to be in the hands of the children from the sixth through the eighth grade. All of the history of Tennessee ought not be packed into one year.

Last, but probably most important of all, current history and events should be taught every day in every grade from the fourth up, if not earlier.

By reading the paragraphs on the geography course of study one may see the parallelism between the topics in history and geography running through grades three to six and to a large extent through the seventh and eighth. This close correlation makes not only for a better understanding of each subject, but also for a great saving of time on the part of the children and teacher.

2. THE TEACHING OF GEOGRAPHY.

With one or two exceptions all the lessons observed in geography were review lessons in preparation for the final examinations. They were either reviews of definite pages in the textbook or a study of final examination questions given in preceding years.

Name and locate a large city on Thames River.

London is located on the Thames River. It is the largest city in the world and is noted for its historical buildings. It has many manufactures, a fine harbor, and is noted for commerce.

Name and locate the capital of France.

Paris is the capital of France. It has a good harbor. It has new fashions, laces, silk, jewelry, historic buildings. The tomb of Lafayette is there. It is in the northwestern part of France.

What is Spain noted for?

Spain is noted for export of olive oil, grapes, wine, and cork.

The above questions and answers were given in a class in geography.

First of all the answers accepted indicate that the child's information on the points raised is meager and uninteresting and point conclusively to the fact that the child's chief aim has been to master the words of the textbook, which is itself most scant in vital, rich geographical material. The impression is gained that the class of facts that the child is required to retain is of very little value. A child soon reaches the point when he can recite on such a question as, "For what is Paris noted?" without really knowing anything at all about it, for almost any great city has manufactures, famous buildings, good commerce, lace, and so on. A study of Spain or some industries of Spain ought to result in a greater fund of knowledge than merely the statement that "Spain is noted for olive oil, grapes, wine, and cork," and a few other such stereotyped sentences.

Although somewhat handicapped in making valid conclusions by the fact that in a month of visiting we saw little other than review, the results shown by the pupils' responses show the method employed in teaching is largely memorization of the textbook material. We found by listening to the children with the textbook before us that the information given back by them was very similar and sometimes identical to the words of the book. This would not be entirely bad, if the book were interesting and rich in information.

A STENOGRAPHIC LESSON IN GEOGRAPHY.

The following lesson, given in a seventh grade, was stenographically recorded for purposes of illustration:

Teacher. Name the countries.

Pupil. China and India.

Teacher. We are speaking of Europe.

Pupil. Italy, France and Germany, between Spain and in Switzerland.

Teacher. Any other country?

Pupil. Russia, Spain, and Portugal.

Teacher. Where do we find another highland that compares next in height to this highland?

Pupil. Next to the Alpine?

Teacher. Yes. The range itself?

Pupil. The Pyrenees.

Teacher. Locate it.

Pupil. The Pyrenees are in the northern part of Spain. No; they are in the eastern part of France. In the southern part of France.

Teacher. They help to form part of a boundary?

Pupil. Yes; boundary between Spain and France.

Teacher. We should expect then that they would be an inconvenience to those two countries, forming a boundary between them. In what way would it be an inconvenience?

Pupil. They couldn't get from one country to the other.

Teacher. That would be especially inconvenient for building railroads?

Pupil. Yes.

Teacher. How have they avoided this inconvenience?

Pupil. Digging tunnels.

Teacher. They didn't have to do that everywhere, did they?

Pupil. No; they go by water.

Teacher. Yes; but can you explain how they get around the mountains? Can anyone explain?

Pupil. They go around. There is a lowland where the railroads can be built.

Teacher. Where have they another highland?

Pupil. The Ural Mountains.

Teacher. What do you know about the height of those mountains?

Pupil. You mean how high they are?

Teacher. Yes. I don't mean the number of feet but as compared with other highlands.

Pupil. They are not so high.

Teacher. They amount to little more than hills?

Pupil. Yes.

Teacher. Have they any valuable mineral products?

Pupil. They have gold. They are very rich in gold.

Teacher. Then we have other highlands farther toward the north. What are they? You are likely to forget those because they are separated from the mainland.

Pupil. The northern part—I mean the western part of Sweden, the Norway and Sweden peninsula.

Teacher. They are liable to be overlooked because they are separated from the mainland. How are they separated?

Pupil. By the North Sea.

Teacher. It separates what countries? It separates Norway from what country?

Pupil. From England.

Teacher. But these are separated from the mainland of Europe by what sea?

Pupil. Caspian Sea. No, the Black Sea. The Baltic Sea, and Gulf of Bothnia.

Teacher. We find that these mountains are especially valuable for what product?

Pupil. I don't know.

Teacher. Can you tell me, John?

Pupil. No, I don't know.

Teacher. Does any one know? Not a mineral product.

Pupil. They are especially valuable for lumber.

Teacher. Yes, the Norway pines are so familiar to us that they have gotten into literature. When a poet wants to speak of a man as very large or powerful or tall, he says "As tall as a Norwegian pine." A little farther to the north of the Balkan States we find a range of mountains that shut off a plain. What is that?

Pupil. The Carpathian Mountains.

Teacher. What is the plain they partly inclose?

Pupil. The plain of Hungary.

Teacher. This plain is inclosed or bordered by what river?

Pupil. It is that river in Austria-Hungary—the Danube.

Teacher. As this river comes from these mountains—the Carpathian Mountains—we would expect some sort of natural scenery here. Can you describe it?

Pupil. Natural scenery?

Teacher. Yes, where the river winds its way through the mountains.

Pupil. It has many pretty waterfalls.

Teacher. What is it called where a river goes through?

Pupil. A pass. Where the river goes through these mountains it makes pretty colors. That might be natural scenery.

Teacher. It has a name of its own. Nobody can give it?

Pupil. A pass or a canyon.

Teacher. Let's see if you can find out. Look it up and let's see how many will remember and tell us to-morrow. This river flows into what sea?

Pupil. Into the Caspian Sea.

Teacher. No.

Pupil. The Black Sea .

Teacher. Describe its entrance?

Pupil. How do you mean? Tell how it goes, in the direction it runs?

Teacher. Well, you can tell that, but that wasn't what I wanted.

Pupil. It runs sort of southeast and turns and goes west. I don't know what you mean?

Teacher. Can you help him, Maud?

Pupil. It flows——

Teacher. What is meant by the "delta" of the river?

Pupil. It is sediment.

Teacher. Couldn't you have told me that without so many questions then?

Pupil. I thought you meant the way it went in. If a river goes real fast it takes the sediment down, and if it slows up it drops it.

Teacher. The river stretches out in little branches and the mountain scenery in the Alpine highland compared with our Rocky Mountains how?

Pupil. It is not as beautiful.

Teacher. Why do you say that?

Pupil. Because it is not in America.

Teacher. People who have been there and who have been to the Rockies say we have just as imposing scenes in the Rocky Mountains as they have in Europe, then why do we want to go to the Alps?

Pupil. Because it is historical; where Napoleon carried his army; and on account of the history and because of the old things that have been there longer.

Teacher. It is more closely associated with history, is that it?

Pupil. Yes.

Teacher. We find another range of mountains farther south; what are they?

Pupil. The Caucasus. In the southeastern part of Russia, and separating Russia from Asia Minor.

Teacher. Can you name a high peak there?

Pupil. Mt. Everest.

Teacher. How does it compare with the Alps?

Pupil. It is the highest peak in the Caucasus. It is higher than any other in Europe.

Teacher. We haven't been so much concerned until lately about Russia, have we, and the countries in Western Asia? Can you describe the surface of the peninsula of Italy? What mountains have we there?

Pupil. The Apennines, they come down the center, and there are river valleys. It is kind of rough. The Apennines are the principal mountains.

Teacher. Into what sea does this peninsula extend?

Pupil. The Mediterranean.

Teacher. We find it inclosing what little sea?

Pupil. The Adriatic.

Teacher. We find an interesting peculiarity in these mountains in Italy, different from the other mountains of Europe. What is it? They have some peaks that are familiar as what?

Pupil. Volcanoes.

Teacher. Can you name one or two of these volcanoes? I know you can name one.

Pupil. Vesuvius.

Teacher. It is near what city?

Pupil. Near Rome.

Teacher. No.

Pupil. Near Naples.

Teacher. Can you tell us about the history of Vesuvius?

Pupil. A long time ago it had an eruption and buried several cities, and during 1906 it had another eruption and buried some more. This lava was so deep that they couldn't dig the cities up again so they built new cities on top of them.

Teacher. Since 1906?

Pupil. No; after these other cities had been buried.

Teacher. Can you tell us about when the other eruption was?

Pupil. It was before Christ. No; it was a little bit after.

Teacher. It was 79 A. D. Can you give us the name of the cities?

Pupil. No.

Teacher. Maud?

Pupil. P-o-m-p-e-double-i and Herculaneum.

Teacher. These cities were buried for so long that they built other cities over them. Why did they want to dig them up?

Pupil. There were fine statues there and they wanted to keep them.

Teacher. It was not so much the value of the things themselves was it? It was the historical value, wasn't it?

Pupil. Yes.

Teacher. Just off the foot of Italy there are other volcanoes. Can you name them?

Pupil. One of the volcanoes is Popocatepetl.

Teacher. No; you have that mixed with South America. How does Vesuvius compare in height with Popocatepetl? Popocatepetl is higher, isn't it? How much higher? Can't you give the figures?

Pupil. No.

Teacher. It is about twice as high. . . . Name the two most important rivers on this peninsula?

Pupil. The Po and the Tiber.

Teacher. We have a city that is just off the coast of Italy—that is, out in the sea. What is that?

Pupil. Venice.

Teacher. We have a city across the Adriatic that is receiving a great deal of notice now. What is that city?

Pupil. Fiume.

Teacher. Can you describe the surface of the Spanish Peninsula—that includes also what other country?

Pupil. Portugal.

Teacher. Describe the surface?

Pupil. It is very rough in the eastern and northern part.

Teacher. In what direction do the rivers flow, most of them? Into what waters?

Pupil. Into the Mediterranean. Some of them flow into the Bay of Biscay.

Teacher. In what direction is that?

Pupil. North.

Teacher. Most of the rivers flow into the Mediterranean. Now tell us about the slope.

Pupil. It slopes southeast.

Teacher. Describe the climate of this peninsula, John.

Pupil. It is high.

Teacher. Describe the climate.

Pupil. Isn't it warm, or more like our Southern States? Many people go there to visit because it is so warm.

Teacher. Yes; it is pleasant there most of the year. What do you know about the rainfall?

Pupil. It is plentiful. No; it is not either.

Teacher. It is rather scanty. We find them growing what things?

Pupil. Grapes, olives, some grains.

Teacher. Most of these countries grow grain to live on, don't they?

Pupil. Yes.

Teacher. At the tip of this peninsula we find this almost adjoining what continent?

Pupil. Africa.

Teacher. What is the point that is nearest to Africa?

Pupil. The Strait of Gibraltar.

Teacher. A strait is not a point of land is it?

Pupil. No; it is a body of water.

Teacher. This strait connects what waters?

Pupil. The Atlantic.

Teacher. This point of land is what?

Pupil. The rock of Gibraltar.

Teacher. We would expect it to belong to what nation?

Pupil. To Spain; but it don't.

Teacher. But it does belong to England?

Pupil. Yes; England beat Spain all to pieces and took it away from them.

Teacher. The lowlands of Europe extend over what countries, Ella? We have spoken of only one great plain.

Pupil. I don't know. The plains of Hungary.

Teacher. Most of the plains of Europe are where?

Pupil. In Austro-Hungary and Russia and extending across Wales.

Teacher. John?

Pupil. Across eastern France and eastern Germany.

Teacher. Northern Germany?

Pupil. Yes.

Teacher. What about the little country adjoining France and Germany?

Pupil. Belgium.

Teacher. What about that surface? Are there plains?

Pupil. Yes.

COMMENTS ON THIS TYPE OF TEACHING.

We have introduced this stenographic lesson to show where the emphasis in teaching in geography is placed. We have introduced it to show the type of review that takes up two months of every year.

This lesson illustrates the character of the course of study. We merely wish to ask a series of questions. Are these facts interesting? Are they worth while? Have most of these facts any bearing upon the needs and interests of the child? Is this sort of a result indicative of real teaching? We must answer negatively.

There are some few teachers, however, who develop the geographical principles inductively and supplement the text by outside material. The majority, however, will say, "We haven't time for anything but getting ready for the examination."

The trouble is not alone in the textbook. Very few of the teachers have had training in geography of such a character as to make good geography teaching possible. Since this is the case many of them stick closely to the text for the reason that there is very little else for them to do.

Many teachers subscribe or have copies of the National Geographic Magazine and other good geographical material in the way of pictures, post cards, maps, while some schools have sets of stereographic views. On the whole, the teachers have not sufficient equipment to do good geography work. We have in mind several excellent teachers of geography who in spite of all they can do, have only the most meager equipment. The board of education should supply in some way better globes, maps, industrial exhibits, stereopticons, stereographs, moving pictures, and supplementary readers in quantities sufficiently large as to allow each child in a room to have a book. There should be geographical readers and reference books in every school library.

There is much material which each school can and ought to collect for itself. There might be in each school-supply room a cabinet with boxes, one for each big and important topic in geography, where all information, cards, pictures, bulletins, clippings, and the like might be assembled. Teachers and pupils alike can collect this material for any and all sources. Take, for example, a topic like "Our national parks," a subject which affords rich opportunity for development of geographical principles. There can be obtained in railroad offices and from the United States Government a vast amount of authoritative information in the form of bulletins and guides. There are many other such opportunities.

There seemed to be in the geography teaching as a whole too little correlation with the home community and the events of the day, which would serve to vitalize the work. A child will not work actively or think intelligently if he is not interested. It did not seem that the children in the geography classes were really anxious or desirous of learning the facts. The greatest fault in the teaching of the subject was the want of a real motive. If the teachers were only to seize on the rich mine of geographical material in Memphis and surrounding country, the geographical changes and topics of the day, the attitude of the children would be revolutionized, to say nothing of the richer knowledge that would accrue.

In view of the fact that there is such a rich field for geographical study, physical, commercial, and industrial in Memphis, it ought to be possible for the teachers by means of frequent, well-planned excursions to acquaint the children with their immediate environment. These excursions do not necessarily need to serve geography alone, but at the same time furnish ideas for the study of history and civics, or elementary science. The composition work can also be allowed to grow out of them. A school schedule should be flexible enough to permit the teachers to thus vitalize their school activities. It is necessary to caution against excursions without plan or intention.

Good geography instruction not only furnishes a child with a mass of useful and interesting facts, but can afford one of the best opportunities possible for constructive thinking on the part of the child. If geography is approached from the inductive point of view, it will not be long before many children will acquire an inquiring attitude of mind toward the subject, and will be able soon to think rather well about ordinary observations.

There are several pamphlets which would be of great service to the schools—"Memphis, its Advantages, Resources, Opportunities," issued by the chamber of commerce, and "The call of the alluvial empire," by Southern Alluvial Land Association. These bulletins deal with the location of Memphis, its raw materials, transportation facilities, contributory territory, labor, factories, water supply, banks, streets, lumber, cotton and cottonseed oil, furniture, flour, and many other topics.

A number of times it was observed that children were reciting geography without a map in the room or without reference to the maps in their books when it was really necessary to have a map before them. The teachers, on the whole, apparently do not use map sketching as means of illustrating the work. The children as well ought to have more training in sketching maps to illustrate their recitations. Many teachers require map drawing and making of product and relief maps. Just how this is developed could not be observed, but the results were good.

As a general thing, there is no organic relationship between the course of study in geography and that in history. On very few occasions was there observed any historical setting or fact attached to the study of a place or a country. This lack of correlation is just as evident in history as in geography. This condition of affairs as a general practice is inexcusable.

In conclusion, the chief objection to geography in Memphis now is that it is chiefly a memorization of unimportant facts, whereas it ought to be an active inquiry into rich geographical topics, both close at home and elsewhere.

THE COURSE OF STUDY IN GEOGRAPHY.

The present course of study in Memphis is based largely upon the material found in the Frye Geography Series. The home geography of the third grade is based upon a text prepared by local teachers. The course is organized as follows:

Third grade: Home geography.

Fourth grade: Introduction to geographical forms and North America.

Fifth grade: United States (first semester); Europe and Asia (second semester).

Sixth grade: United States.

Seventh grade: Pacific States, Canada, Mexico, South America, (first semester; Europe, Asia (second semester).

Eighth grade: Europe, Africa, Australia (first semester); physical and commercial geography (second semester).

It can be said safely that the aim of the teachers is to teach the content of the textbook with little effort to add supplementary material. The final examination is limited strictly to the subject matter of the text, and for this reason little attempt in general is made to emphasize supplementary material.

The thought side of geography is neglected. The children are expected to memorize what the book gives and are not required ordinarily to go further than that. The subject matter of the course bears little relationship to the interests and needs of the child. Geography is a mass of dry, disconnected, unrelated facts.

SUGGESTIONS FOR A NEW COURSE.

Home geography.—The majority of good geography teachers of to-day recognize that home geography in the third and fourth grades well organized and well taught forms the foundation of all later work. The units selected for study should be selected upon a basis of geographical soundness; each unit should have direct geographical bearing. At the same time these units should be so chosen as to permit of close correlation with local history. History and home geography should be carried on hand in hand. It is also advisable to begin in an elementary way the study of the world as a whole by means of a globe and maps.

The subject matter, if possible, ought to be based entirely upon the direct observation and experience of the children, excursions being used when necessary.

We are suggesting a list of topics that the schools in Memphis could treat with ease and with great profit. The principles upon which these topics are selected are that in general certain social units and earth units are necessary to a complete understanding of geography in its broad sense as the relation of two great subjects—earth and man.

A visit to the city market; visit the booths for fish, eggs, butter, strawberries, meats. Find out how these products are brought to the market, prices, sanitary conditions, delivery, advantages of a market.

A visit to the Mississippi River; what the boats bring; the wharves; the rise and fall of the river; the levee; the boats; the general effect of the water upon the banks, the bluffs.

A visit to Front Street, a bakery, flour mill, a garden, a hardware store, the school vicinity, city hall, the city parks, the post office, meat market, a house in the process of construction, lumber yard.

There are any number of topics that could be cited, but we have given enough to indicate the lines upon which the course should be built. A textbook is not at all necessary if the teachers are thoroughly alive to the advantages which Memphis offers for this sort of work.

Intermediate and upper grade geography.—A course in geography which does not make clear to the child the fundamental principles in geography can scarcely be called geography. By the time the child has finished the elementary school he should have clear ideas upon the earth as a globe—form, size, motion, latitude, longitude, seasons, zones, day and night, climate, temperature, rainfall, winds, waves, tides, ocean currents, plains, plateaus, mountains, rivers, glaciers, volcanoes, and the like. This can not be gotten by a mere memorization of the first few pages of the ordinary geography, where such material is customarily presented. The approach should be made more from the social or human aspects of geography, although this does not need to be an invariable rule.

We are, therefore, suggesting certain large units of study which involve not only the man's relationship to the earth, but which bring out by means of application the physical principles of geography as well. The outline offered permits of close correlation with the course suggested in history and also with the suggestions for elementary science and nature study.

Fourth grade.—The Mississippi River, cotton raising, sugar plantation, fruit raising in Florida and Georgia, oil wells in Oklahoma or Texas, granite and marble in Tennessee, tobacco, coal mining in Kentucky and West Virginia, yellow-pine industry in Memphis, water power in Southern States.

Fifth grade.—Wheat raising in Central States, lumbering in Maine or Oregon, national parks (Yellowstone or Yosemite), irrigation in the West, corn, steel mills around Pittsburgh, the Great Lakes, forest preserves, gold mining in California, Chicago as a market.

Sixth and seventh grades.—The Panama Canal; the island of Cuba; coffee raising in Brazil; rubber industry and automobile trade; cattle raising in Argentina; silver mining in Peru; Alaska; transcontinental railways of Canada; hunting in Canada; fishing in Newfoundland; North and South America as continents; shipbuilding in Scotland; Alps, the playground of Europe; grape production in Italy; cork industry in Spain; the Danube; Rome, capital of the world; silk culture in France; canal systems of France and Germany; London as a historic city; the plains of Russia; the Trans-Siberian Railway; rug manufacture in southwestern Asia; Constantinople; the Nile River; diamond mining in South Africa; the Sahara; handwork among the Japanese; tea culture in China; the Himalaya; sheep industry in Australia.

Eighth grade.—A good, vigorous course in physical, commercial, and economic geography to be a summarization and extension of the work of previous years. For example, the cotton industry could be studied intensively, with stress laid upon the various phases of geography involved.

The above list of suggested topics is not meant to be exclusive but merely indicative of the point of approach that we believe necessary to give children a thorough, worth while, interesting body of knowledge in geography which will be of immediate and future value to them.

The course is similar in point of attack to the course in history and to a certain extent parallels it. Teachers often ask this question: "Does such a course cover the ground?" "Will it teach place geography? Will it teach weather, river systems, and the like?" We answer most decidedly in the affirmative. We wish to cite merely one example. A sixth grade under our observation this year took up the study of the grape industry in the Mediterranean countries as one of the chief sources of livelihood of the peoples in those countries. Here are some of the questions they had to answer: What is the method of propagating grapes in Italy and France? Is it the same here in Tennessee? How is it done in California? In New York? What kind of climate does the industry require? How are grapes cultivated? What are the products made from grapes? How are they shipped? What is the value of the crop? All the way through the study comparisons were made between

Italy and America with respect to the industry. Rivers, cities, oceans, districts, States, weather, climates, wind, rainfall, hail, and snow all had to be discussed in order to arrive at the desired aim and always discussed with some object in mind, not a mere memorization of facts and a routine answering of questions in the text.

3. THE TEACHING OF ARITHMETIC.

THE PRESENT COURSE OF STUDY.

The course of study in arithmetic in the Memphis schools is virtually the Stone-Millis Arithmetic series of texts, with a few eliminations. But for these few exceptions the children are required to solve practically every problem and example in the books. The method of presentation is largely that given by the text.

The course as now followed is good enough, perhaps, as far as arithmetical principles are concerned, but the problem material is mostly a thing apart from the child's experience and activities. A child can not think actively or well about situations which he does not understand. We saw an eighth-grade girl solving a problem of this nature: "A derrick 45 feet in height is held in place by three steel cables reaching from the top of the derrick to stakes in the ground 38 feet from the base of the derrick. Allowing 10 feet of cable for fastening, how much steel cable is required?" The arithmetical principles involved were good, but the girl had no conception of a derrick. The teacher could have made it clear, or she could have developed the same principle in connection with some situation familiar or useful to the girl.

There seems to be an absolute refusal of the teacher to use problems from the daily lives of the children, even when the problems would illustrate the arithmetical principles involved. Because vital connections are not made, children rarely ever see the real value of many number processes. We make suggestions below with reference to the vitalization of the problem material.

The outstanding feature of the course, as now given, is the relatively small amount of oral arithmetic. Inasmuch as a vast portion of a person's number experiences are not written, it is very evident that oral arithmetic ought to have a much more prominent place in the course than is now the case. To increase the oral work would mean an enormous saving of time and an important increase in the child's everyday efficiency.

THE AIMS OF THE STUDY OF ARITHMETIC.

1. To give the pupils the knowledge of those arithmetical facts and fundamental processes necessary to interpret and solve the

problems met by every person in doing the world's work and to develop skill in using them.

2. To develop in the child power to reason accurately in the face of as complicated data as will be likely to occur in the problems met in everyday life.

3. To develop skill, rapidity, and accuracy in the use of numbers required in the ordinary business transactions and practical affairs of life.

4. To satisfy the child's felt need for a knowledge of the laws of number and to aid him in interpreting the quantitative relations of life.

Having briefly stated the general aims to be attained by the course of study in arithmetic, it seems desirable to sketch in a brief way a minimal course without which a child can not meet the quantitative situations of his environment or successfully handle the arithmetical tasks which confront almost everyone in the daily routine of life.

A MINIMUM COURSE SUGGESTED.

A minimum course should cover the following topics:

1. The fundamental operations with whole numbers and fractions, both common and decimal. The denominators of common fractions limited to those found in usual business practice. Decimals limited to three or four places. Relationships of common to decimal fractions.

2. Problems: Only those of common occurrence in the lives of every individual. (*a*) To find the fractional part of a number. (*b*) To find what fractional part one number is of another. (*c*) The same as (*a*) and (*b*) with reference to decimal fractions. Percentage as involved in these two types of problems. (*d*) To find the cost or amount of any number of articles, given the cost or value of one, three, a dozen, or a hundred. (*e*) Simple ratio and proportions.

3. Percentage and its applications. (*a*) The first and second cases of percentage, as indicated in 2 (*a*) and (*b*). (*b*) Common business applications of percentage; interest at ordinary rates for year and month, and for usual periods of days; commission and brokerage, commercial discount; profit and loss; taxes and insurance, first and second cases only of percentage applied to these problems.

4. Business forms; bills, receipts, drafts, checks, money orders, deposit slips, bank books, express and freight bills, parcel post, postal savings, and the like.

5. Denominate numbers involving problems of actual conditions. (*a*) Linear measure: In foot, yard, rod, mile, kilometer, meter. (*b*)

Square measure: Square inch, foot, yard, rod, mile; acres, section, township. (*c*) Cubic measure: Cubic inches, feet, yards. (*d*) Dry measure: Pint, quart, gallon, peck, bushel, crate, barrel, hogshead, and any other local measures. (*e*) Liquid measure: Half-pint, pint, quart, gallon, barrel and any other local measures. (*f*) Weight measure: Ounce, pound, ton, hundredweight, bale, and other local weights. (*g*) Time measure: Second, minute, hour, day, week, month year, decade, century. (*h*) Money: Cents, dollars, pounds, francs. (*i*) Mensuration: Computation of areas of triangles and common rectangular figures. Volume of common rectangular solids. (*j*) Miscellaneous: The meaning of the equation, square root.

The above course is only the minimum, but we feel that every essential arithmetical need of the ordinary individual can be met by it if the outline be properly interpreted. It is possible to give other topics and more difficult problem material in those topics mentioned to the more gifted children.

It remains for those who make the course of study in arithmetic to allot the parts of the above outline to the various grades, according to the needs and ability of the children involved. The above outline is not a course of study. It is merely a suggestion for a guide in the formulation of a course of study. The course of study itself must indicate with exactness what topics are to be given in each grade; the intensity with which a topic is to be developed; the standards of efficiency expected each year and other similar questions.

PROBLEMS BASED ON FAMILIAR SITUATIONS NEEDED.

It was our feeling that the problem material of the arithmetic course in Memphis is dead as far as the child's interest was concerned. We have, therefore, suggested certain activities which contain vital arithmetical stuff which will not only serve to motivate the arithmetic itself but other subjects, such as civics, geography, and manual arts as well.

Type problems of familiar situations should be suggested to the child for the formulation of problems, the solution of which will appeal to his interest and create a desire for further study of the mathematical side of his daily contacts. In the arithmetical work of all grades the larger part of the period should be devoted to the application of the principles of arithmetic in oral and written concrete problems. Children fail oftener in the interpretations of mathematical situations than they do in the manipulations of abstract numbers. Not more than 25 per cent of the period should be devoted to abstract drill which should be short, snappy and varied.

The following topics offer a suggestion list upon which type problems may be formulated:

The child and his games.

The child and his play.

Purchasing articles at the store and in marketing.

Cost of recreation trips to the parks, moving pictures, theaters, lectures, and other public amusements.

Computing a child's earnings and savings in running errands, selling papers, doing work at home and for neighbors, etc.

The cost of his clothing.

Family budget, income, cost of family marketing, other expenses such as clothing, house furnishings, fuel, rent, fire and life insurance, telephone, light, car fare, church, contributions to charity, etc.

Computing individual and class scholarship records.

Computing cost of schoolroom supplies, janitor's supplies, and other expenses of the school plant—coal, light, labor, etc.

Keeping of the family accounts—payment of bills, family checking account, family bank savings account, deposit slips, interest.

Economy of cash purchases and in large amounts. How much can be saved.

Various tradesmen's expenses.

Measuring a garden; expenses connected with gardening; market value of the products of gardening; net profits.

Cost of keeping a horse and buggy; the upkeep of an automobile.

Expenses of a vacation trip.

Telephone and telegraph rates.

Water rates.

Taxes on home and public property.

Study of the postal system—stamps, special delivery, registered mail, money order, parcel post, postal savings, etc.

Thrift Stamps, War Savings Stamps, Liberty Bonds (interest on same).

Cost of public improvements, street pavements, lighting, etc.

Distances by trolley, steamship and by rail between different points with comparisons of rates and schedules.

City and United States Government expenses. Different forms of revenue.

Problems in manual arts.

Gardening.

Trades of community.

Menus.

THE COURTIS TEST TO SHOW SPEED AND ACCURACY.

The most widely used test for judging of the efficiency of schools and classes in the operations of addition, subtraction, multiplication, and division with integers is that devised by Dr. S. A. Courtis, of Detroit. By testing thousands of children of all grades and in all types of schools throughout the country, he has formulated a standard of attainment in both speed and accuracy by which other schools can be rated.

The series consists of four tests printed on a four-page folder, one test to each page. Twenty-four examples of equal difficulty are given in each. A time limit is set for each test, 8 minutes for the addition test, 4 minutes for the subtraction, 6 minutes for the multiplication, and 8 minutes for the division test. Within these respective time limits each pupil tested is required to solve as many examples as he can. The papers are then marked for the number attempted (speed) and for the number which are correct (accuracy). In order that all tests may be standardized, no credit is given for examples incomplete or partially correct. A full description of this test and its use can be found in Monroe, DeVoss and Kelly, "Educational Tests and Measurements," 1917. The following are sample exercises of the four tests, the remaining examples of each are of equal difficulty:

Test No. 1.—Addition (8 minutes).

927	297	136	486	384	176	277	837
379	925	340	765	477	783	445	882
756	473	988	524	881	697	682	959
837	983	386	140	266	200	594	603
924	315	353	812	679	366	481	118
110	661	904	466	241	851	778	781
854	794	547	355	796	535	849	756
965	177	192	834	850	323	157	222
344	124	439	567	733	229	953	525

Test No. 2.—Subtraction (4 minutes).

115364741	67298125	92057352	113380936
80195261	29346861	42689037	42556840

Test No. 3.—Multiplication (6 minutes).

3876	9245	7368	2594	6495
93	86	74	25	19

Test No. 4.—Division (8 minutes).

37)14467 86)60372 94)67774 25)9750

This series of tests was given to pupils of the fifth, sixth, seventh, and eighth grades of the Bruce, Hill, Lauderdale, Merrill, Riverside, Roselle (white schools); and Grant, Kortrecht Grammar, and La Rose (colored schools). The tests were given to 1,577 white children and 500 Negro children, 2,077 children in all. The schools selected were generally distributed throughout the city.

The rate of speed.

ADDITION ATTEMPTS (TIME, EIGHT MINUTES).

Grades.	Total papers.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Median.	Standard median.
White:																												
VIII	268	..	1	...	3	9	12	26	33	50	37	41	22	7	11	7	3	4	2	..	..	..	..	..	..	..	9.0	11.6
VII	363	..	..	2	4	12	37	54	60	77	47	29	25	7	3	3	2	..	..	..	1	..	..	..	..	..	8.2	10.9
VI	413	..	..	1	5	34	54	70	78	68	46	26	17	8	3	2	1	..	..	..	..	..	..	..	..	..	7.6	9.8
V	533	..	..	12	29	78	119	110	70	56	30	16	4	3	1	2	2	..	1	..	..	..	..	..	..	..	6.26	8.6
Negro:																												
VIII	38	..	..	...	...	1	3	6	12	5	4	4	2	..	1	..	..	..	..	..	..	..	..	..	..	..	7.8	11.6
VII	128	..	..	1	9	17	33	21	16	16	6	6	2	1	..	..	..	..	..	..	..	..	..	..	..	..	6.2	10.9
VI	149	..	1	4	14	27	27	21	23	24	4	3	1	..	..	..	..	..	..	..	..	..	..	..	..	..	6.1	9.8
V	185	..	..	15	23	42	42	32	18	7	2	1	..	2	..	..	..	..	..	..	..	..	1	..	..	..	5.3	8.6
White and Negro:																												
VIII	306	..	1	...	3	10	15	32	45	55	41	45	24	7	12	7	3	4	2	..	..	..	..	..	..	..	8.8	11.6
VII	491	..	..	3	13	29	70	75	76	93	53	35	27	8	3	3	2	..	..	..	1	..	..	..	..	..	7.7	10.9
VI	562	..	1	5	19	61	81	91	101	92	50	29	18	8	3	2	1	..	..	..	..	..	..	..	..	..	7.2	9.8
V	718	..	..	27	52	120	161	142	88	63	32	17	4	5	1	2	2	..	1	..	..	..	1	..	..	..	5.99	8.6

SUBTRACTION ATTEMPTS (TIME, FOUR MINUTES).

Grades.	Total papers.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Median.	Standard median.
White:																												
VIII	267	..	..	...	1	...	2	4	4	19	27	41	36	32	31	14	10	10	7	9	9	3	5	2	..	1	12.0	12.9
VII	362	1	1	...	3	6	5	25	46	59	59	55	44	24	19	6	3	1	4	1	..	..	..	..	..	..	9.6	11.6
VI	413	1	..	2	6	13	31	53	61	92	44	42	26	21	10	4	5	2	..	..	..	..	..	..	..	..	8.4	10.3
V	533	3	..	4	14	39	73	108	100	82	51	33	12	3	2	5	2	2	..	..	..	..	..	..	..	..	7.26	9.0
Negro:																												
VIII	38	..	..	1	...	1	2	4	6	6	5	7	..	3	1	..	1	..	..	..	..	1	..	..	..	..	8.8	12.9
VII	128	1	..	2	11	10	18	22	16	26	3	6	6	5	1	1	..	..	..	..	..	..	..	..	..	..	7.0	11.6
VI	149	..	4	6	12	11	8	10	17	18	10	17	11	14	1	3	3	2	2	..	..	..	..	..	..	..	8.4	10.3
V	185	3	2	13	17	25	23	18	16	22	11	12	6	7	5	1	1	1	1	1	..	..	..	..	..	..	6.5	9.0
White and Negro:																												
VIII	305	..	..	1	1	1	4	8	10	25	32	48	36	35	32	14	11	10	7	9	9	4	5	2	..	1	11.6	12.9
VII	490	2	1	2	14	16	23	47	62	85	62	61	50	29	20	7	3	1	4	1	..	..	..	..	..	..	8.9	11.6
VI	562	1	4	8	18	24	39	63	78	110	54	59	37	35	11	7	8	4	2	..	..	..	..	..	..	..	8.4	10.3
V	718	6	2	17	31	64	96	126	116	104	62	45	18	10	7	6	3	3	1	1	..	..	..	..	..	..	7.1	9.0

MULTIPLICATION ATTEMPTS (TIME, SIX MINUTES).

Grades.	Total papers.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Median.	Standard median.
White:																												
VIII	268	..	..	...	2	1	9	22	31	28	37	41	37	23	11	10	5	2	6	3	..	..	..	..	..	..	10.1	11.5
VII	361	..	..	1	5	16	36	61	61	51	46	40	21	13	6	1	1	..	1	..	..	..	..	..	1	..	8.0	10.2
VI	413	..	..	2	22	36	64	85	79	67	30	17	6	2	2	..	..	..	..	..	..	..	..	..	..	1	6.9	9.1
V	533	..	5	11	49	73	125	106	89	31	26	5	9	1	1	..	..	2	..	..	..	..	..	..	..	..	6.0	7.5
Negro:																												
VIII	38	1	..	...	...	...	3	3	6	6	8	3	4	2	1	..	..	..	..	1	..	..	..	..	..	..	9.0	11.5
VII	128	2	..	...	6	13	21	16	26	12	13	10	2	3	1	1	1	..	..	1	..	..	..	..	..	..	7.2	10.2
VI	152	..	..	6	14	16	25	15	33	9	17	7	2	5	1	..	1	..	..	..	1	..	..	..	..	..	7.0	9.1
V	185	2	2	5	24	20	48	19	27	23	5	6	1	..	1	..	..	..	..	..	..	..	..	..	1	1	5.8	7.5
White and Negro:																												
VIII	306	1	..	...	2	1	12	25	37	34	45	44	41	25	12	10	5	2	6	4	..	..	..	..	..	..	9.9	11.5
VII	489	2	..	1	11	29	57	77	87	63	59	50	23	16	7	2	2	..	1	..	1	..	..	..	1	..	7.8	10.2
VI	565	..	..	8	36	52	89	100	112	76	47	24	8	7	3	..	1	..	..	..	1	..	..	..	..	1	6.9	9.1
V	718	2	7	16	73	93	173	125	116	54	31	11	10	1	2	..	..	2	..	..	..	..	..	..	1	1	5.9	7.5

DIVISION ATTEMPTS (TIME, EIGHT MINUTES.)

Grades.	Total papers.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	Median.	Standard median.
White:																												
VIII	268	..	..	...	4	6	16	31	36	45	30	24	16	19	19	9	7	4	1	1	..	..	..	..	..	..	8.9	10.7
VII	360	1	4	9	25	44	63	51	31	55	22	25	4	16	6	1	2	1	..	..	..	..	..	..	..	..	6.7	9.6
VI	413	4	9	34	57	89	89	51	31	22	20	3	2	1	1	..	..	..	..	..	..	..	..	..	..	..	5.2	8.2
V	533	12	33	93	117	131	81	27	18	11	3	..	2	3	..	..	..	2	..	..	..	..	..	..	..	..	4.1	6.1
Negro:																												
VIII	38	1	..	...	2	2	6	6	3	6	1	5	2	1	3	..	..	..	..	..	..	..	..	..	..	..	7.7	10.7
VII	128	2	4	18	25	40	10	16	6	5	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4.4	9.6
VI	152	2	12	19	29	43	18	14	5	7	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	4.3	8.2
V	185	9	44	41	33	32	8	5	9	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2.9	6.1
White and Negro:																												
VIII	306	1	..	...	6	8	22	37	39	51	31	23	18	20	22	9	7	4	1	1	..	..	..	..	..	..	8.8	10.7
VII	488	3	8	27	50	84	73	67	37	60	24	25	4	16	6	1	2	1	..	..	..	..	..	..	..	..	5.9	9.6
VI	565	6	21	53	86	132	107	65	36	29	22	3	2	1	2	..	..	..	..	..	..	..	..	..	..	..	4.9	8.2
V	718	21	77	134	150	163	89	32	27	13	5	..	2	3	..	..	..	2	..	..	..	..	..	..	..	..	3.8	6.1

Degree of accuracy.

ADDITION TEST—PERCENTAGE OF ACCURACY.

Grades.	Total papers.	0–49 per cent correct.	50 per cent correct.	60 per cent correct.	70 per cent correct.	80 per cent correct.	90 per cent correct.	100 per cent correct.	Median accuracy.	Standard median.
White:										
VIII	268	44	44	46	49	41	20	24	70.0	76.0
VII	363	80	67	55	57	63	10	31	66.3	75.0
VI	413	115	68	60	58	66	9	37	64.0	73.0
V	533	204	76	80	49	53	5	66	58.2	70.0
Negro:										
VIII	38	16	12	2	2	4	1	1	52.5	76.0
VII	128	45	23	23	8	17	12	....	58.2	75.0
VI	149	52	18	21	16	21	3	18	62.3	73.0
V	185	53	24	25	24	28	....	31	66.4	70.0
White and Negro:										
VIII	306	60	56	48	51	45	21	25	67.9	76.0
VII	491	125	90	78	65	80	22	31	63.9	75.0
VI	562	167	86	81	74	87	12	55	63.4	73.0
V	718	257	100	105	73	81	5	97	60.1	70.0

SUBTRACTION TEST—PERCENTAGE OF ACCURACY.

White:										
VIII	267	13	12	30	51	70	50	41	84.0	87.0
VII	362	46	24	36	61	98	32	65	81.5	86.0
VI	413	72	45	69	59	78	22	68	73.5	85.0
V	553	162	55	77	74	98	5	62	66.4	83.0
Negro:										
VIII	38	9	6	4	9	6	2	2	70.0	87.0
VII	128	56	19	22	10	10	4	7	54.2	86.0
VI	149	54	25	22	24	14	3	7	58.4	85.0
V	185	106	29	22	13	9	....	6	43.8	83.0
White and Negro:										
VIII	305	22	18	34	60	76	52	43	82.5	87.0
VII	490	102	43	58	71	108	36	72	75.9	86.0
VI	562	126	70	91	83	92	25	75	69.3	85.0
V	718	268	84	99	87	107	5	68	60.6	83.0

MULTIPLICATION TEST—PERCENTAGE OF ACCURACY.

White:										
VIII	268	19	22	42	57	65	29	34	78.9	81.0
VII	361	59	45	53	47	83	15	59	75.1	80.0
VI	413	106	51	62	51	74	6	63	68.0	78.0
V	533	190	67	77	56	76	1	66	61.3	75.0
Negro:										
VIII	38	12	3	8	7	7	....	1	65.0	81.0
VII	128	52	19	19	18	16	1	3	56.3	80 0
VI	152	67	22	22	14	14	2	11	54.0	78.0
V	185	99	14	15	17	24	1	15	47.2	75.0
White and Negro:.										
VIII	306	31	25	50	64	72	29	35	77.3	81.0
VII	489	111	64	72	65	99	16	62	69.7	80.0
VI	565	173	73	84	65	88	8	74	64.4	78.0
V	718	289	81	92	73	100	2	81	58.6	75.0

DIVISION TEST—PERCENTAGE OF ACCURACY.

White:										
VIII	268	11	15	18	24	65	29	106	90.3	91.0
VII	360	53	18	33	42	72	12	130	84.7	90.0
VI	413	103	44	53	29	60	2	122	72.4	87.0
V	533	226	70	60	38	34	....	105	55.8	77.0
Negro:										
VIII	38	10	2	6	5	6	5	4	72.0	91.0
VII	128	54	23	13	14	14	....	10	54.3	90.0
VI	152	59	16	21	17	15	1	23	60.4	87.0
V	185	98	28	8	11	11	....	29	47.4	77.0
White and Negro:										
VIII	306	21	17	24	29	71	34	110	88.7	91.0
VII	488	107	41	46	56	86	12	140	78.9	90.0
VI	565	162	60	74	46	75	3	145	68.2	87.0
V	718	324	98	68	49	45	....	134	53.5	77.0

Memphis schools compared.

THE ADDITION TEST.

[Comparison of median scores—Compared also with general standard medians.]

Grades.	Examples.	White schools.						Negro schools.			General standard.
		Bruce.	A. B. Hill.	Lauderdale.	Merrill.	Riverside.	Rozelle.	Grant.	Kortrecht Grammar	La Rose.	
VIII	Examples attempted	7.6	8.9	8.2	9.3	10.3	11.3	7.8	......	......	11.6
	Percentage correct	67.2	72.3	70.0	58.7	70.0	76.0	52.5	......	......	76.0
VII	Examples attempted	8.3	6.9	8.4	8.8	7.8	8.4	6.3	7.0	5.5	10.9
	Percentage correct	63.0	70.0	74.7	56.2	65.0	67.5	53.5	83.3	60.0	75.0
VI	Examples attempted	8.12	6.6	7.6	7.8	7.9	7.4	5.8	6.3	6.1	9.8
	Percentage correct	63.9	59.1	65.8	60.0	66.2	72.8	52.0	71.5	61.0	73.0
V	Examples attempted	6.0	6.4	6.3	6.4	6.8	5.5	6.5	4.7	5.3	8.6
	Percentage correct	61.5	58.3	61.0	57.5	52.8	54.2	66.7	75.6	57.7	70.0

THE SUBTRACTION TEST.

VIII	Examples attempted	14.7	10.9	11.6	11.0	12.0	11.9	8.8	......	......	12.9
	Percentage correct	84.7	85.3	83.8	78.5	86.0	85.5	60.0	......	......	87.0
VII	Examples attempted	9.4	8.5	9.5	10.5	9.7	10.3	6.4	8.3	8.4	11.6
	Percentage correct	83.2	82.3	85.2	79.3	75.6	77.5	48.8	85.0	54.2	86.0
VI	Examples attempted	8.7	6.5	8.7	8.6	10.5	8.2	4.5	8.8	10.2	10.3
	Percentage correct	78.2	65.8	80.0	71.4	70.0	80.0	58.0	61.5	56.0	85.0
V	Examples attempted	6.9	6.9	7.7	7.2	8.56	6.4	4.4	7.3	8.2	9.0
	Percentage correct	73.6	64.7	75.0	66.2	45.9	66.7	44.4	42.1	44.6	83.0

THE MULTIPLICATION TEST.

VIII	Examples attempted	10.3	9.0	10.8	8.3	11.0	10.0	9.0	......	......	11.5
	Percentage correct	76.4	80.9	82.8	82.5	72.5	78.5	65.0	......	......	81.0
VII	Examples attempted	7.7	7.0	8.3	8.6	8.6	8.9	6.8	7.0	8.0	10.2
	Percentage correct	71.0	71.6	80.0	71.6	74.2	73.8	56.7	60.0	50.0	80.0
VI	Examples attempted	6.9	5.8	7.4	7.5	7.7	6.9	5.5	5.8	7.1	9.1
	Percentage correct	65.8	57.5	76.4	65.3	69.0	80.0	55.6	42.8	61.1	78.0
V	Examples attempted	5.7	5.8	7.1	5.6	6.9	5.2	6.5	5.0	6.0	7.5
	Percentage correct	68.4	62.5	67.0	61.8	51.6	56.2	68.3	35.5	47.7	75.0

THE DIVISION TEST.

VIII	Examples attempted	9.3	7.8	9.2	9.4	8.4	10.3	7.7	......	......	10.7
	Percentage correct	87.6	87.6	91.2	90.0	88.8	100.0	72.5	......	......	91.0
VII	Examples attempted	7.2	5.1	6.1	8.0	6.1	8.0	4.6	4.3	3.6	9.6
	Percentage correct	85.5	78.9	100.0	83.6	81.6	78.3	53.1	43.7	62.0	90.0
VI	Examples attempted	5.8	4.2	4.9	5.6	5.7	5.2	4.1	4.0	4.7	8.2
	Percentage correct	77.5	57.0	85.8	67.5	76.6	82.0	51.6	63.3	65.0	87.0
V	Examples attempted	3.9	3.8	3.7	4.2	4.8	4.1	3.1	1.8	4.0	6.1
	Percentage correct	60.6	45.6	74.2	53.8	39.4	65.5	63.3	34.6	45.6	77.0

Memphis in comparison.

ADDITION.

Grades.	General standard.			Courtis standard.		Boston.		San Francisco.			Columbia, S. C.							Memphis.						
											The system.			Whites.		Negroes.		The system.			Whites.		Negroes.	
	Speed.	Accuracy.	Examples correct.	Speed.	Accuracy.	Speed.	Accuracy.	Speed.	Accuracy.	Examples correct.	Speed.	Accuracy.	Examples correct.	Speed.	Accuracy.	Speed.	Accuracy.	Speed.	Accuracy.	Examples correct.	Speed.	Accuracy.	Speed.	Accuracy.
VIII...	11.6	76.0	8.8	12.0	100	12	80	11.9	74.8	8.9	7.6	61.7	4.7	8.1	64.0	6.0	53.3	8.8	67.9	5.9	9.0	70.0	7.8	52.5
VII....	10.9	75.0	8.1	11.0	100	11	80	9.7	69.8	6.8	7.5	63.1	4.7	8.0	67.0	5.9	55.7	7.7	63.9	4.9	8.2	66.3	6.2	58.2
VI.....	9.8	73.0	7.1	10.0	100	10	70	10.3	74.1	7.6	6.8	60.0	4.0	7.4	64.0	5.2	52.1	7.2	63.4	4.6	7.6	64.0	6.1	62.3
V......	8.6	70.0	6.0	8.0	100	9	70	8.2	75.1	6.0	5.8	56.2	3.3	6.4	61.4	4.6	47.5	5.9	60.1	3.5	6.3	58.2	5.3	66.4
SUBTRACTION.																								
VIII..	12.9	87.0	11.2	13.0	100	12.0	90	13.9	90.9	12.6	7.6	61.7	4.7	8.1	64.0	6.0	53.3	11.6	82.5	8.6	12.0	84.0	8.8	70.0
VII...	11.6	86.0	9.9	12.0	100	11.0	90	12.5	85.1	10.7	7.5	63.1	4.7	8.0	67.0	5.9	55.7	8.9	75.9	6.8	9.6	81.5	7.0	54.2
VI....	10.3	85.0	8.8	11.0	100	10.0	90	11.4	84.2	9.6	6.8	60.0	4.0	7.4	64.0	5.2	52.1	8.4	69.3	5.8	8.4	73.5	8.4	58.4
V.....	9.0	83.0	7.4	9.0	100	9.0	80	9.1	82.6	7.5	5.8	56.2	3.3	6.4	61.4	4.6	47.5	7.1	60.6	4.3	7.7	66.4	6.5	43.8
MULTIPLICATION.																								
VIII...	11.5	81.0	9.3	11.0	100	11.0	80	10.5	76.0	8.0	7.0	63.6	4.5	7.8	65.1	5.8	58.0	9.9	77.3	7.7	10.1	78.9	9.0	65.0
VII....	10.2	80.0	8.1	10.0	100	10.0	80	9.1	74.0	6.7	7.8	71.2	5.6	8.3	76.3	5.9	50.0	7.8	69.7	5.4	8.0	75.1	7.2	56.3
VI.....	9.1	78.0	7.0	9.0	100	9.0	80	8.8	78.7	6.9	6.4	65.0	4.2	6.8	68.7	4.3	55.6	6.9	64.4	4.4	6.9	68.0	7.0	54.0
V......	7.5	75.0	5.6	8.0	100	7.0	70	6.8	66.9	4.5	5.6	57.5	3.2	6.2	66.7	3.3	47.2	5.9	58.6	3.5	6.0	61.3	5.8	47.2
DIVISION.																								
VIII...	10.7	91.0	9.7	11.0	100	11.0	90	9.6	89.2	8.6	6.7	82.7	5.5	7.2	86.3	4.5	63.3	8.8	88.7	7.8	8.9	90.3	7.7	72.0
VII....	9.6	90.0	8.6	10.0	100	10.0	90	8.1	80.3	6.5	6.5	84.1	5.5	7.4	86.9	4.5	60.0	5.9	78.9	4.7	6.7	84.7	4.4	54.3
VI.....	8.2	87.0	7.1	8.0	100	8.0	80	7.6	74.7	5.7	4.9	80.0	3.9	5.5	84.4	4.0	57.2	4.9	68.2	3.3	5.2	72.4	4.3	60.4
V......	6.1	77.0	4.7	6.0	100	6.0	70	4.7	57.0	2.7	4.3	57.6	2.5	5.0	69.0	3.3	42.7	3.8	53.5	2.0	4.1	55.8	2.9	47.4

THE SPEED OF MEMPHIS CHILDREN.

Reference to the tables which give the results for the median number of problems attempted will show the children in the Memphis schools very deficient in speed when compared with the general standard median which has been obtained by testing thousands of children throughout the United States. (See Monroe, Educational Tests and Measurements, pp. 38–40.) We have separated the Negro and white children, so that it can not be said that the deficiency in speed is due to deficiency in the Negro children.

Addition.—In addition processes the children of the fifth, sixth, and seventh grades, white schools, fall below what ordinary fifth-grade children have obtained in other cities, while the eighth grade of the white schools fail to exceed the general standard median of the sixth grade. In the Negro schools none of the four upper grades reach the general standard median of the fifth grade.

Subtraction.—The fifth and sixth grades in the white schools failed to reach the general standard of the fifth grade, while the seventh grade barely exceeded the standard of the fifth grade, and the eighth grade a little more than excelled the standard median of the seventh grade. In the Negro schools none of the four upper grades reached the general standard median of the fifth grade.

Multiplication.—The fifth and sixth grades, white schools, failed to reach the general standard of the fifth grade, while the seventh grade barely exceeded the general standard of the fifth grade, and the eighth grade failed to reach the general standard of the seventh grade. Only the eighth grade of the Negro schools exceeds the general standard median of the fifth grade, and then not sufficiently to equal the general standard of the sixth grade.

Division.—The eighth grade of the white schools falls below the seventh grade general standard, while the seventh grade barely exceeds the general standard of the fifth grade. The sixth and fifth grades both fall below the general fifth grade standard. The Negro fifth, sixth, and seventh grades are all inferior to the fifth grade general standard, while the eighth grade is not quite up to the sixth grade standard.

ACCURACY AND EXAMPLES CORRECT.

Not only are the children in the Memphis schools deficient in speed, but they also stand very low in accuracy. In other words, they attempt fewer problems than the average children of their respective grades and are less accurate than are the children of other school systems, even though they attempt a fewer number of examples. For example, eighth-grade children under the general standard attempt 11.6 examples out of 24 with an accuracy score of 76 per cent, thus averaging 8.8 examples correct, while Memphis eighth-grade children attempt 8.8 examples with 67.7 accuracy score and only 5.9 examples correct as an average, which is not as large a number of examples correct as a fifth-grade child should do, according to the general standard. It seems reasonable to expect an eighth-grade child in Memphis to solve as many examples correctly as a fifth-grade child in San Francisco, but at the present time he is not able to do it. We are somewhat inclined to believe that it is not entirely the child's fault.

In subtraction again the children of the upper grades in the Memphis schools fall down sadly in accuracy. The average number of examples correct for the eighth grade is less than the general standard for the seventh grade, while the fifth, sixth, and seventh grades all fall below the general standard for examples correct by the fifth grade.

In multiplication the situation is even worse. The average number of examples correct for the Memphis schools in any of the upper grades except the eighth falls below the general standard for the fifth grade, while the average number of examples correct for the eighth grade is only slightly better than the sixth grade.

In division the average number of examples correct for the eighth grade is somewhat better than the sixth grade general standard. The fifth, sixth, and seventh grades do not exceed the general standard of the fifth grade.

Reference to the table in which the Memphis school system is compared to the general standard, obtained by testing thousands of children all over the United States, and the Boston standards, obtained by several years' use, and the results found in the San Francisco and Columbia, S. C., surveys, will show that the arithmetic situation in Memphis as far as fundamental operations are concerned compares badly with all except the schools of Columbia, S. C.

We have also made a comparison of the schools which were tested and the results are presented for the benefit of teachers in those schools. In not more than three or four instances did any class exceed the median accuracy or median speed for its grade. This situation should be a subject for reflection for all teachers concerned.

The situation in the Negro schools is particularly bad. A close study of the results will show that there is a very wide range of variation in the accomplishment of the different schools both in speed and accuracy which can only result from inefficient supervision and poor classification of children. For example, the Bruce School children in the eighth grade did not attempt so many examples in addition as children in the sixth. In the Hill School the number of examples attempted by the fifth, sixth, and seventh grades is practically the same in each grade.

SNAPPY DRILLS NEEDED.

Drill, properly conducted and continuously carried on, is an absolute requirement for speed and accuracy in the arithmetical operations. A motive for drilling, a thorough understanding of the steps involved in the drill process, regular, frequent short repetitions with a maximum of attention focused on the drill, with enough variation of drill material to avoid any monotony are the most important principles upon which to base effective drills. In a month of observation only a very few drill lessons carried out along those lines were observed. We believe that it is good practice to begin almost every arithmetic lesson with a good, snappy drill, which, if possible, is connected in some way with the day's work. Not enough of this type of activity is found now in the Memphis schools. Four or five minutes each day spent in this way is the most economical expenditure of time that can be devised.

In this same connection, as has already been said, there is practically no oral or mental arithmetic in the upper and intermediate grades. Just why this should be so is not quite clear. The teachers urge that there is not time for it. As a matter of fact there is not time enough to do anything else than give a large percentage of the time to oral work. Too much written work, too much analysis, and too much labeling of every figure on the board or on paper take a great amount of unnecessary labor and time. Problem analysis and written solutions are all right to fix the process involved in mind, but when the process is once mastered, oral solutions, without a detailed analysis, are permissible and desirable. Very frequently children were observed writing out long anaylses of problems which would have been easily solved mentally with a great saving of time.

Many of the teachers realize the weakness of the oral work. Some urge that separate periods be assigned for mental arithmetic and for written arithmetic. This is not at all necessary nor wise. In any of the modern textbooks there are many oral problems, and further, many of the problems labeled "written" permit of oral or partially oral solution. It is frequently advisable to require children to carry the solution of a problem as far as possible orally and write only those operations which are necessary.

A REASONING TEST IN ARITHMETIC.

Although no very scientific standards for reasoning ability in arithmetic have been developed, the Stone Reasoning Test is used more than any other test of this nature. The test is printed here.

(Solve as many of the following problems as you have time for; work them in order as numbered:)

1. If you buy 2 tablets at 7 cents each and a book for 65 cents, how much change should you receive from a two-dollar bill? (1.0.)
2. John sold 4 Saturday Evening Posts at 5 cents each. He kept one-half the money and with the other half he bought Sunday papers at 2 cents each. How many did he buy? (1.0.)
3. If James had 4 times as much money as George, he would have $16. How much money has George? (1.0.)
4. How many pencils can you buy for 50 cents at the rate of 2 for 5 cents? (1.0.)
5. The uniforms for a baseball nine cost $2.50 each. The shoes cost $2 a pair. What was the total cost of uniforms and shoes for the nine? (1.0.)
6. In the schools of a certain city there are 2,200 pupils; one-half are in the primary grade, one-fourth in the grammar grades, one-eighth in the high school, and the rest in the night school. How many pupils are there in the night school? (1.4.)
7. If 3½ tons of coal cost $21, what will 5¼ tons cost? (1.2.)
8. A new dealer bought some magazines for $1. He sold them for $1.20 gaining 5 cents on each magazine. How many magazines were there? (1.6.)

9. A girl spent one-eighth of her money for car fare, and three times as much for clothes. Half of what she had left was 80 cents. How much money did she have at first? (2.0.)

10. Two girls receive $2.10 for making buttonholes. One makes 42, the other 28. How shall they divide the money? (2.0.)

11. Mr. Brown paid one-third of the cost of a building; Mr. Johnson paid one-half the cost. Mr. Johnson received $500 more annual rent than Mr. Brown. How much did he receive? (2.0.)

12 A freight train left Albany for New York at 6 o'clock. An express train left on the same track at 8 o'clock It went at the rate of 40 miles an hour. At what time of day will it overtake the freight train if the freight train stops after it has gone 56 miles? (2.0.)

The time allowance is exactly 15 minutes. The problems are graded in difficulty, each problem having a score value commensurate with its difficulty. No credit was allowed for partially correct or partially complete answers.

OBSERVATIONS ON THE STONE REASONING TEST.

Stone has recently issued the following standards of accomplishment in speed and accuracy in the reasoning test:

Eighty per cent or more of fifth grade pupils should reach or exceed a credit score of 5.5 with 75 per cent accuracy.

Eighty per cent or more of sixth grade pupils should reach or exceed a credit score of 6.5 with 80 per cent accuracy.

Eighty per cent or more of the seventh grade pupils should reach or exceed a credit score of 7.5 with 85 per cent accuracy.

Eighty per cent of eighth grade pupils should reach or exceed a credit score of 8.75 with 90 per cent accuracy.

Judged by these standards, the Memphis schools did poorly. The average (approximately equivalent to the median for a large number of pupils) or 50 per cent of the fifth grade reached a score of 3.3, with an average accuracy of 45.7 per cent.

Only 50 per cent of the sixth grade pupils reached a score of 4.8 with an average accuracy of 54.5 per cent.

Only 50 per cent of the seventh grade pupils reached a score of 6.1 with an average accuracy of 64.9 per cent.

Only 50 per cent of the eighth grade pupils reached a score of 7.5 with an average accuracy of 71.1 per cent.

This comparison does not put the Memphis schools in a particularly good light. However, when Memphis is compared with other cities, where the same test has been given and the results calculated in the same way, we find that the average credits per pupil in the fifth grade are higher than in any city compared except Salt Lake City. This is true, also, for the sixth grade and seventh grade. The average credits in the eighth grade are exceeded by the average of the eighth grades in Butte, Mont., and Salt Lake City.

The study of the scores of individual schools and grades will be very valuable to the teachers. When comparisons are made of different schools and grades in average credits, examples attempted and accuracy, a wide variation is found, indicating lack of supervision.

The following table shows the range of variability. Supervision should do a great deal to eradicate the differences and raise the general average or attainment:

Results of the reasoning tests in white schools.

Schools and grades.	Number of pupils.	Total examples attempted.	Total examples correct.	Percentage of accuracy.	Total credits.	Average credits per pupil.	Average examples attempted per pupil.	Average examples right per pupil
Bruce:								
Grade V	114	665	410	63.1	442.8	3.8	5.8	3.5
Grade VI	53	384	243	63.2	256.4	4.8	7.2	4.6
Grade VII	101	863	503	58.6	546.4	5.4	8.5	5.0
Grade VIII	60	457	356	77.9	393.2	6.5	7.6	5.9
Total	328	2,369	1,512	63.8	1,638.8	3.5	7.2	4.6
Church Home: Grade V	5	33	3	.91	3.0	.18	6.6	.6
Cummings:								
Grade V	73	502	211	42.0	220.2	3.0	6.8	3.0
Grade VI	64	562	258	45.9	228.6	4.5	8.7	4.2
Grade VII	42	400	194	48.5	222.2	5.3	9.5	4.6
Grade VIII	27	232	142	61.2	164.6	6.1	8.5	5.2
Total	206	1,696	805	47.4	895.6	4.3	8.2	3.9
Gordon:								
Grade V	57	370	147	39.7	156.2	2.7	6.5	2.6
Grade VI	46	262	160	61.0	166.8	3.6	5.7	3.5
Grade VII	34	323	186	57.5	212.2	6.2	9.5	5.4
Grade VIII	25	237	144	60.7	166.4	6.6	9.4	5.7
Total	162	1,192	637	53.2	701.6	4.1	7.3	3.9
Guthrie:								
Grade V	40	234	106	45.2	107.6	2.6	5.8	2.6
Grade VI	55	379	244	64.9	252.0	4.6	6.8	4.4
Grade VII	64	558	341	60.2	364.4	5.7	8.7	5.3
Grade VIII	37	335	222	66.2	256.2	6.9	9.0	6.0
Total	196	1,506	913	60.6	980.2	5.0	7.7	4.6
A. B. Hill:								
Grade V	105	691	281	40.6	285.8	2.7	6.6	2.6
Grade VI	75	453	255	56.2	257.8	3.7	6.0	3.4
Grade VII	59	420	257	61.1	263.0	4.4	7.1	4.4
Grade VIII	44	330	226	68.4	250.8	5.7	7.5	5.1
Total	283	1,894	1,019	53.8	1,057.4	3.7	6.7	3.6
Idlewild:								
Grade V	76	483	257	53.2	272.2	3.5	6.3	3.3
Grade VI	81	621	399	64.2	424.6	5.2	7.6	4.9
Grade VII	70	688	379	55.1	436.1	6.2	9.6	5.4
Grade VIII	55	547	378	69.1	444.8	8.0	9.9	6.8
Total	282	2,339	1,413	60.4	1,577.7	5.5	8.2	5.0
Lauderdale:								
Grade V	57	337	158	46.8	159.6	2.8	5.9	2.8
Grade VI	58	640	376	58.7	417.4	7.1	11.0	6.6
Grade VII	86	515	402	78.0	416.2	4.8	6.0	4.6
Grade VIII	71	548	403	73.5	437.0	6.1	7.7	5.6
Total	272	2,040	1,339	65.6	1,430.2	5.2	7.5	4.9
Leath:								
Grade V	59	408	191	46.8	202.0	3.4	6.9	3.2
Grade VI	57	594	303	51.0	360.8	6.3	10.4	5.3
Grade VII	40	399	211	52.8	240.2	6.0	10.0	5.2
Grade VIII	35	349	206	59.0	212.8	6.0	9.9	5.9
Total	191	1,750	911	52.0	1,015.8	5.3	9.1	4.7
Leath Orphanage:								
Grade V	....	....	....	....	....	....	....	....
Grade VI	7	33	21	63.6	220.0	3.0	4.7	3.0
Grade VII	5	37	23	62.0	254.0	5.0	7.4	4.6
Total	12	70	44	62.8	474.0	3.9	5.8	3.6

Results of the reasoning tests in white schools—Continued.

Schools and grades.	Number of pupils.	Total examples attempted.	Total examples correct.	Percentage of accuracy.	Total credits.	Average credits per pupil.	Average examples attempted per pupil.	Average examples right per pupil.
Lenox:								
Grade V	27	139	84	60.4	84.8	3.1	5.1	3.1
Grade VI	33	228	144	63.2	152.2	4.6	6.9	4.3
Grade VII	43	312	216	69.2	231.6	5.4	7.2	5.0
Grade VIII	27	225	188	83.5	210.8	7.8	8.3	7.0
Total	130	904	632	69.9	679.4	5.2	6.1	4.9
Madison Heights:								
Grade V	20	148	69	46.6	75.0	3.7	7.4	3.4
Grade VI	74	520	252	48.4	284.6	3.8	7.0	3.4
Grade VII	41	398	252	63.3	293.0	7.1	9.7	6.1
Grade VIII	31	313	182	58.1	213.8	6.9	10.1	5.9
Total	166	1,379	755	54.7	866.4	5.2	8.3	4.5
Maury:								
Grade V	92	509	270	53.0	283.4	3.0	5.5	3.0
Grade VI	68	547	299	54.6	323.4	4.7	8.0	4.4
Grade VII	67	562	375	66.7	416.6	6.2	8.4	5.6
Grade VIII	45	403	269	66.7	319.4	7.1	8.9	5.9
Total	272	2,021	1,213	60.0	1,342.8	4.9	7.4	4.4
Merrill:								
Grade V	62	419	248	59.1	258.2	4.1	6.7	4.0
Grade VI	70	490	307	62.6	326.8	4.6	7.0	4.4
Grade VII	44	370	240	64.8	288.4	6.5	8.4	5.5
Grade VIII	28	226	181	80.0	217.0	7.7	8.0	6.4
Total	204	1,505	976	64.8	1,090.4	5.3	7.3	4.8
Peabody:								
Grade V	56	377	136	36.0	130.0	2.3	6.7	2.4
Grade VI	62	462	246	53.2	261.4	4.2	7.4	4.0
Grade VII	44	331	227	68.5	250.2	5.7	7.5	5.1
Grade VIII	39	334	245	73.3	287.6	7.4	8.5	6.3
Total	201	1,504	854	56.7	929.2	4.6	7.4	4.2
Pope:								
Grade V	80	492	217	44.1	223.4	2.8	6.0	2.7
Grade VI	67	557	303	54.3	332.4	4.9	8.3	4.5
Grade VII	35	288	184	63.9	169.4	4.8	8.2	5.2
Grade VIII	13	120	100	83.3	105.0	8.0	9.2	7.7
Total	195	1,457	804	55.1	830.2	4.2	7.4	4.1
Riverside:								
Grade V	99	681	316	46.4	333.6	3.2	6.8	3.2
Grade VI	49	403	224	55.5	246.4	5.1	8.2	4.5
Grade VII	33	280	170	60.7	188.8	5.7	8.5	5.1
Grade VIII	17	150	101	67.3	117.4	6.9	8.8	6.0
Total	198	1,514	811	53.5	886.2	4.4	7.6	4.1
Rozelle:								
Grade V	52	344	192	55.8	197.0	3.8	6.6	3.7
Grade VI	41	340	198	58.2	208.4	5.0	8.3	4.8
Grade VII	53	406	305	75.1	353.8	6.6	7.6	5.7
Grade VIII	39	385	279	72.4	325.4	8.6	9.8	7.1
Total	185	1,475	974	66.0	1,094.6	5.9	8.0	5.2
Smith:								
Grade V	69	690	228	33.0	251.2	3.6	10.0	3.3
Grade VI	60	605	249	41.1	278.4	4.6	10.0	4.1
Grade VII	29	249	161	64.6	183.8	6.3	8.5	5.5
Grade VIII	25	285	200	70.01	252.4	10.1	11.4	8.0
Total	183	1,829	838	45.7	965.8	5.2	10.0	4.6
Snowden:								
Grade V	40	329	156	47.4	167.0	4.1	8.2	3.9
Grade VI	39	393	205	52.2	233.0	6.0	10.1	5.2
Grade VII	36	389	328	84.3	404.0	11.2	10.8	9.1
Grade VIII	30	2,311	188	60.4	7.1	215.4	10.3	6.2
Total	145	1,422	877	61.6	1,019.4	7.0	9.8	6.0
St. Paul:								
Grade V	28	172	110	63.9	92.6	3.3	6.1	4.0
Grade VI	49	359	212	59.0	225.4	4.6	7.3	4.3
Grade VII	36	269	171	63.5	190.6	5.3	7.4	4.8
Grade VIII	22	212	143	67.4	165.0	7.5	9.6	6.5
Total	135	1,012	636	62.8	673.6	4.9	7.4	4.7

Results of the reasoning test in Negro schools.

Schools and grades.	Number of pupils.	Total examples attempted.	Total examples correct.	Percentage of accuracy.	Total credits.	Average credits per pupil.	Average examples attempted per pupil.	Average examples correct per pupil.
Caldwell:								
Grade V	18	152	128	84.2	140.6	7.8	8.4	7.1
Grade VI	10	89	77	86.5	86.1	8.6	8.9	7.7
Total	28	241	205	85.0	226.7	8.0	8.6	7.3
Carnes:								
Grade V	52	367	177	48.2	190.6	3.6	7.0	3.4
Grade VI	47	339	184	54.3	194.2	4.1	7.4	3.9
Total	99	706	361	51.1	384.8	3.8	7.1	3.6
Charles:								
Grade V	9	86	74	86.0	92.4	10.2	9.5	8.2
Grade VI	5	49	46	93.9	59.0	11.8	9.8	9.2
Total	14	135	120	88.8	151.4	10.8	9.6	8.5
Grant:								
Grade V	43	212	115	54.2	115.0	2.5	4.9	2.6
Grade VI	18	79	24	30.3	244.0	13.5	4.4	1.3
Grade VII	84	442	226	51.1	213.8	2.5	5.2	2.7
Grade VIII	39	211	111	52.6	114.6	2.9	5.4	2.8
Total	184	944	476	50.4	687.4	3.7	5.1	2.6
Greenwood:								
Grade V	43	246	166	67.4	166.6	3.8	5.7	3.8
Grade VI	26	153	106	69.2	110.8	4.2	5.8	4.1
Grade VII	22	186	148	79.5	176.4	8.0	8.4	6.7
Total	91	585	420	73.5	453.8	4.9	6.4	4.4
Klondike:								
Grade V	41	492	237	48.9	256.6	6.2	12.0	5.8
Grade VI	33	295	185	62.7	205.0	6.2	8.9	5.6
Total	74	787	422	53.6	461.6	6.2	10.0	5.7
Kortrecht Grammar:								
Grade V	47	470	96	20.4	96.2	2.0	10.0	2.0
Grade VI	43	430	130	30.2	133.2	3.1	10.0	3.0
Grade VII	11	110	54	49.0	57.4	5.2	10.0	5.0
Total	101	1,010	280	26.1	286.8	2.8	10.0	2.6
Kortrecht High:								
Grade VII	74	637	606	95.1	842.0	11.3	8.6	8.1
Grade VIII	88	1,038	892	85.9	1,172.7	13.3	11.7	10.0
Total	162	1,675	1,498	89.3	2,014.7	12.4	10.3	9.2
La Rose:								
Grade V	112	799	293	36.6	305.2	2.7	7.1	2.6
Grade VI	65	480	221	46.0	227.2	3.2	7.4	3.4
Grade VII	32	182	92	50.5	89.2	2.8	5.6	2.9
Total	209	1,461	606	41.4	621.6	2.9	6.9	2.9
Porter:								
Grade V	48	480	177	36.8	201.0	4.2	10.0	3.7
Grade VI	24	240	118	49.1	118.0	4.8	10.0	4.9
Grade VII	24	240	140	58.3	146.0	6.0	10.0	5.8
Total	96	960	435	45.3	465.0	4.8	10.0	4.7
Virginia Avenue:								
Grade V	64	280	52	18.5	52.0	0.8	4.3	0.8
Grade VI	57	244	127	52.0	127.0	2.2	4.3	2.2
Grade VII	13	61	43	70.4	43.0	3.3	4.7	3.3
Total	134	585	222	37.9	222.0	1.6	4.3	1.6

Memphis schools compared in average examples per pupil attempted and right.

WHITE SCHOOLS.

Name.	Grades.							
	V.		VI.		VII.		VIII.	
	Average number.		Average number.		Average number.		Average number.	
	Attempted.	Right.	Attempted.	Right.	Attempted.	Right.	Attempted.	Right.
Bruce	5.8	3.5	7.2	4.6	8.5	5.0	7.6	5.9
Church Home	6.6	.6						
Cummings	6.8	3.0	8.7	4.2	9.5	4.6	8.5	5.2
Gordon	6.5	2.6	5.7	3.5	9.5	5.4	9.4	5.7
Guthrie	5.8	2.6	6.8	4.4	8.7	5.3	9.0	6.0
A. B. Hill	6.6	2.6	6.0	3.4	7.1	4.4	7.5	5.1
Idlewild	6.3	3.3	7.6	4.9	9.6	5.4	9.9	6.8
Lauderdale	5.9	2.8	11.0	6.6	6.0	4.6	7.7	5.6
Leath	6.9	3.2	10.4	5.3	10.0	5.2	9.9	5.9
Leath Orphanage			4.7	3.0	7.4	4.6		
Lenox	5.1	3.1	6.9	4.3	7.2	5.0	8.3	7.0
Madison Heights	7.4	3.4	7.0	3.4	9.7	6.1	10.1	5.9
Maury	5.5	3.0	8.0	4.4	8.4	5.6	8.9	5.9
Merrill	6.7	4.0	7.0	4.4	8.4	5.5	8.0	6.4
Peabody	6.7	2.4	7.4	4.0	7.5	5.1	8.5	6.3
Pope	6.0	2.7	8.3	4.5	8.2	5.2	9.2	7.7
Rozelle	6.6	3.7	8.3	4.8	7.6	5.7	9.8	7.1
Riverside	6.8	3.2	8.2	4.5	8.5	5.1	8.8	6.0
Smith	10.0	3.3	10.0	4.1	8.5	5.5	11.4	8.0
Snowden	8.2	3.9	10.1	5.2	10.8	9.1	10.3	6.2
St. Paul	6.1	4.0	7.3	4.3	7.4	4.8	9.6	6.5

NEGRO SCHOOLS.

Caldwell	8.4	7.1	8.9	7.7				
Carnes	7.0	3.4	7.4	3.9				
Charles	9.5	8.2	9.8	9.2				
Grant	4.9	2.6	4.4	1.3	5.2	2.7	5.4	2.8
Greenwood	3.7	3.8	5.8	4.1	8.4	6.7		
Kortrecht Grammar	10.0	2.0	10.0	3.0	10.0	5.0		
Kortrecht High					8.6	8.1	11.7	10.0
Klondike	12.0	5.8	8.9	5.6				
La Rose	7.1	2.6	7.4	3.4	5.6	2.9		
Porter	10.0	3.7	10.0	4.9	10.0	5.8		
Virginia	4.3	0.8	4.3	2.2	4.7	3.3		

Memphis schools compared in average accuracy and average credits.

WHITE SCHOOLS.

Name.	Grades.							
	V.		VI.		VII.		VIII-	
	Average accuracy.	Average credits.	Average accuracy.	Average credits.	Average accuracy.	Average credits.	Average accuracy.	Average credits.
Bruce	63.1	3.8	63.2	4.8	58.6	5.4	77.9	6.5
Church Home	.9	.2						
Central High								
Cummings	42.0	3.0	45.9	4.5	48.5	5.3	61.2	6.1
Gordon	39.7	2.7	61.0	3.6	57.5	6.2	60.7	6.6
Guthrie	45.2	2.6	64.9	4.6	60.2	5.7	66.2	6.9
A. B. Hill	40.6	2.7	56.2	3.7	61.1	4.4	68.4	5.7
Idlewild	53.2	3.5	64.2	5.2	55.1	6.2	69.1	8.0
Lauderdale	46.8	2.8	58.7	7.1	78.0	4.8	73.5	6.1
Leath	46.8	3.4	51.0	6.3	52.8	6.0	59.0	6.0
Lenox	60.4	3.1	63.2	4.6	69.2	5.4	83.5	7.8
Madison Heights	46.6	3.7	48.4	3.8	63.3	7.1	58.1	6.9
Maury	53.0	3.0	54.6	4.7	66.7	6.2	66.7	7.1
Merrill	59.1	4.1	62.6	4.6	64.8	6.5	80.0	7.7
Open Air								
Peabody	36.0	2.3	53.2	4.2	68.5	5.7	73.3	7.4
Pope	44.1	2.8	54.3	4.9	63.9	4.8	83.3	8.0
Rozelle	55.8	3.8	58.2	5.0	75.1	6.6	72.4	8.6
Riverside	46.4	3.2	55.5	5.1	60.7	5.7	67.3	6.9
Smith	33.0	3.6	41.1	4.6	64.6	6.3	70.0	10.1
Snowden	47.4	4.1	52.2	6.0	84.3	11.2	60.4	7.1
St. Paul	63.9	3.3	59.0	4.6	63.5	5.3	67.4	7.5

Memphis schools compared in average accuracy and average credits—Continued.

NEGRO SCHOOLS.

Name	Grades.							
	V.		VI.		VII.		VIII.	
	Average accuracy.	Average credits.	Average accuracy.	Average credits.	Average accuracy.	Average credits.	Average accuracy.	Average credits.
Caldwell	84.2	7.8	86.1	8.9	....	....	....	....
Carnes	48.2	3.6	54.3	4.1	....	....	....	....
Charles	86.0	10.2	93.9	11.8	....	....	....	....
Grant	54.2	2.5	30.3	13.5	51.1	2.5	52.6	2.9
Greenwood	67.4	3.8	69.2	4.2	79.5	8.0	....	....
Kortrecht Grammar	20.4	2.0	30.2	3.1	49.0	5.2	....	....
Kortrecht High	....	....	....	....	95.1	11.3	85.9	13.3
Klondike	48.9	6.2	62.7	6.2	....	....	....	....
La Rose	36.6	2.7	46.0	3.2	50.5	2.8	....	....
Porter	36.8	4.2	49.1	4.8	58.3	6.0	....	....
Virginia	18.5	.8	52.0	2.2	70.4	3.3	....	....

Variability in grades.

Grades.	Examples attempted.	Examples correct.	Average accuracy.	Average credit.
Fifth grade	3.7-12.0	0.6- 8.2	0.9-86.0	0.2- 7.8
Sixth grade	4.3-11.0	1.3- 9.2	30.2-86.1	2.2-11.8
Seventh grade	4.7-10.8	2.7- 9.1	48.5-95.1	2.5-11.3
Eighth grade	5.4-11.7	2.8-10.0	52.6-85.9	2.9-13.3

Summary.

Grades.	Number of pupils.			Total examples attempted.			Average examples attempted per pupil.			Total examples correct.		
	White.	Negro.	System.	White.	Negro.	System.	White.	Negro.	System.	White.	Negro.	System.
Fifth grade	1,211	477	1,688	8,023	3,584	11,607	6.6	7.5	6.8	3,790	1,515	5,305
Sixth grade	1,108	328	1,436	8,832	2,398	11,230	7.9	7.3	7.8	4,898	1,218	6,116
Seventh grade	962	260	1,222	8,057	1,858	9,915	8.3	7.1	8.1	5,125	1,309	6,434
Eighth grade	670	127	797	5,999	1,249	7,248	8.9	9.8	9.0	4,153	1,003	5,156

Grades.	Average examples correct per pupil.			Average accuracy.			Total credits.			Average credits		
	White.	Negro.	System.	White.	Negro.	System.	White.	Negro.	System.	White.	Negro.	System.
Fifth grade	3.1	3.1	3.1	48.4	42.2	45.7	3,945.6	1,616.2	5,561.8	3.2	3.4	3.3
Sixth grade	4.3	3.7	4.2	55.4	50.8	54.5	5,516.8	1,504.5	7,021.3	4.9	4.5	4.8
Seventh grade	5.3	5.0	5.2	63.6	70.4	64.9	5,924.9	1,567.8	7,492.7	5.2	6.0	6.1
Eighth grade	6.1	7.9	6.4	69.2	80.2	71.1	4,765.0	1,287.3	6,052.3	7.1	10.1	7.5

Memphis compared with other cities in average credits per pupil.

Cities.	V Grade.		VI Grade.		VII Grade.		VIII Grade.	
	Median pupil.	Average per pupil.	Median pupil.	Average per pupil.	Median pupil.	Average per pupil.	Median pupil.	Average per pupil.
Janesville, Wis. (15,000 population)	2.40	1.89	3.40	2.93	5.50	5.20	6.3	6.48
Butte, Mont. (40,000 population)	2.20	2.44	3.90	4.24	5.80	5.95	7.7	7.83
Salt Lake City	3.70	4.03	6.40	6.46	8.60	8.86	10.5	10.44
San Francisco	2.85	2.40	5.52	4.06	5.40	4.96	6.8	6.43
Columbia, S. C.:								
White pupils	....	3.0	....	5.0	....	6.3	....	5.4
Negro pupils	....	1.2	....	2.6	....	3.4	....	3.2
Entire system	....	2.5	....	4.4	....	5.6	....	4.9
Memphis:								
White pupils	....	3.2	....	4.9	....	5.2	....	7.1
Negro pupils	....	3.4	....	4.5	....	6.0	....	10.1
Entire system	....	3.3	....	4.8	....	6.1	....	7.5

REASONS FOR THE POOR SHOWING IN ARITHMETIC.

It is rather difficult to account for the poor showing made by Memphis. It can be safely assumed that the native intelligence of the children of Memphis is equal to that of any other city. Therefore, we must look elsewhere for the explanation. The poor results in reasoning may be due to poor teaching, poor textbooks, too difficult problem material, too many changes in teaching staff, and epidemics which force children out of school.

The textbook used in the schools is the Stone-Millis series, and, as observed before, the course of study used is practically the textbook itself, both as to content and as to method of presentation. It is generally recognized as a good textbook, as textbooks go. It contians excellent drill and problem material. It is a mistake, however, to swallow the text whole. The author of the book has to include in it all the topics and problems which all sorts of educators demand in order to sell the book. This ought to be kept in mind by those in charge of the schools. It is not necessary even to solve all the problems in the book, as now apparently is the plan. The children have to solve so many problems that they have no time to master the thought processes involved.

Much of the problem material is foreign to the experience of the child. He deals with problems involving areas, machines, buildings, and all sorts of things of which he has no conception. In other words, the child can not really read the problems. This aids in making thinking impossible.

The observation of classes led to the conclusion that there was wide variation in attempts to make the work in arithmetic concrete. Many teachers insisted on the children building up new concepts on the basis of direct experience with the objects which were being counted, measured, or calculated. Many teachers, however, were neglecting the concreting of the ideas which the children were trying to grasp. In the elementary school objectiveness in teaching can scarcely be emphasized too much in the beginning of any new topic.

In number situations the first essential in thinking a problem through is the ability to read well enough and intelligently enough to understand the conditions of the problem. The children ought to have more opportunity to read and explain the conditions of problems before they begin the solutions. There seemed to be too little reading—real reading—of problems by the children themselves.

Many of the classrooms in Memphis are not equipped for good arithmetic teaching. There is very great need of yardsticks, tapelines, liquid and dry measure, scales and weights, geometrical solids and apparatus, and other things of this nature. There is another type of material which is easily obtainable which would facilitate much of the arithmetic. There ought to be on hand for the children's use all sorts of sale slips, deposit slips and blanks, bank books, bills of sale, monthly statements, telegraph blanks, money-order blanks, checks, drafts, and other common commercial papers.

As suggested in several other places, the arithmetic in the Memphis schools would be much more stimulating if the children had courses in manual training, cooking, sewing, drawing, and gardening, in which the children could find practical application of and need for the arithmetical facts which they acquired.

Many of the teachers from overanxiety to have the children "get" the problem have developed the habit of interfering and aiding throughout the solution of problems. Having once given the child a good problem, it is essential for learning how to think to require the child to think and to think for himself. This is the commonest fault of all teachers everywhere.

There does not seem to be a conscious effort on the part of teachers generally to train the children to think.

4. THE TEACHING OF READING, LANGUAGE, AND LITERATURE.

THE SILENT READING TEST.

To test the reading ability of the children in the elementary schools of Memphis, the Standardized Silent Reading Tests, Form 2, devised by Walter S. Monroe, were given. This test, which is given here to indicate its character, is a test of both speed and comprehension in reading. The test was given in all white and colored schools in grades 3 to 8, inclusive.

GRADES 3, 4, AND 5.

City____________________________ State____________ Date___________
Pupil's name__________________________ Age___________ Grade__________
School____________________________________ Teacher__________________

DIRECTIONS FOR GIVING THE TEST.

After telling the children not to open the papers, ask the children on the front seats to distribute the papers, placing one upon the desk of each pupil in the class. Have each child fill in the blank space at the top of this page. Then make clear the following:

INSTRUCTIONS TO BE READ BY TEACHER AND PUPILS TOGETHER.

This brief test is given to see how quickly and accurately pupils can read silently. To show what sort of test it is, let us read this:

> I am a little dark-skinned girl. I wear a slip of brown buckskin and a pair of soft moccasins. I live in a wigwam. What kind of girl do you think I am?
>
> Chinese French Indian African Eskimo

The answer to this exercise is "Indian," and it is to be indicated by drawing a line around the word. The test consists of a number of exercises like this one. In some of the exercises you are told to draw a line around the word which is the right answer, or to mark it in some other way, and in some you are to write out your answer. If an exercise is wrong it will not count, so it is wise to study each one carefully until you know exactly what you are asked to do. The number of exercises which you can finish thus in five minutes will make your score, so do them as fast as you can, being sure to do them right. Stop at once when time is called. Do not open the papers until told, so that all may begin at the same time.

The teacher should then be sure that each pupil has a good pencil or pen. Note the minute and second by the watch and say, BEGIN.

ALLOW EXACTLY FIVE MINUTES.

Answer no questions of the pupils which arise from not understanding what to do with any given exercise.

When time is up, say STOP and then collect the papers at once.

No. 1 (Rate value 9; comprehension value 1.1).—

The little red hen was in the farmyard with her chickens, when she found a grain of wheat. "Who will plant this wheat?" she said.

Draw a line under the word which tells where the little red hen was.

barn chicken house feed bin farmyard

No. 2 (Rate value 9; comprehension value 1.1).—

Nowhere in the world do the children have so many good times as in Japan. They are allowed to play anywhere, and there are all sorts of toys and games for their amusement.

Are the children of Japan happy? Answer with "Yes" or "No."

No. 3 (Rate value 6; comprehension value 1.3).—

I have red, yellow, and blue flowers in my hand. If I place the red and yellow flowers on the chair, which color do I still have in my hand?

No. 4 (Rate value 7; comprehension value 1.4).—

A donkey, a cat, and a dog went for a walk. After a long time they came to a farmyard. A rooster stood on the gate, crowing and screaming.

Where was the rooster?

No. 5 (Rate value 5; comprehension value 1.4).—

Ruth and Frank were two little children who lived in the country. They were happy, healthy little people.

Where did Ruth and Frank live?

No. 6 (Rate value 5; comprehension value 1.5).—

The teacher told James to buy a book, pencil, tablet, and eraser. He bought the book, tablet, and eraser, but forgot the others.

Which did he forget?

No. 7 (Rate value 11; comprehension value 1.7).—

The door opened and in came a dog. The mice jumped off the table and ran into the hole in the floor. The poor little Country Mouse was so frightened!

What frightened the mice?

Draw a line under the word that tells what it was that frightened the mice.

boy woman cat trap man dog wind

No. 8 (Rate value 9; comprehension value 1.8).—

The wolf put his paws on the windows. When the goslings saw the white feet they thought it was their mother. They opened the door, and in came the wolf.

What did the goslings think it was at the door?

wolf father chicken dog mother

No. 9 (Rate value 8; comprehension value 2.3).—

Here the conversation was interrupted by the approach of a small one-horse buggy to the inn. A well-dressed, gentlemanly man sat on the seat, with a colored servant driving.

How many people does it tell us were in the buggy?

No. 10 (Rate value 7; comprehension value 2.1).—

"The golden rod is yellow,
The corn is turning brown,
The trees in apple orchards
With fruit are bending down."

Draw a line under the season of the year you think is pictured in this stanza.

autumn spring winter summer

No. 11 (Rate value 14; comprehension value 2.4).—

The western part of the United States was not settled till much later than the eastern. The discovery of gold quickly drew many settlers to California, and, as the search for the precious metal was carried farther, the entire West soon became explored and settled.

Draw a line under the one word in the paragraph above that tells what it was that caused the western part of the United States to be settled.

No. 12 (Rate value 5; comprehension value 2.5).—

Eggs and chickens are seen at Easter time in many countries, but the hare is more often seen in Germany than in any other country.

In what country do they have the hare at Easter?

No. 13 (Rate value 8; comprehension value 2.6).—

In one corner of the cabin stood a bed, covered neatly with a snowy spread, and by the side of it was a piece of carpeting of some considerable size.

What was it that stood in one corner of the room?

No. 14 (Rate value 10; comprehension value 2.8).—

On the ground the apples lie
In piles like jewels shining.
And redder still on old stone walls
Are leaves of woodbine twining.

What time of the year is pictured? If spring, draw a line under "winter." If not, draw a line around the right season.

spring summer fall winter

No. 15 (Rate value 10; comprehension value 3.5).—

If we had no more birds in the summer than we have in winter, we should suffer very much from insects. We could not raise fruit, vegetables, or grain, for the insects would eat it all.

Draw a line under the word that tells what the birds destroy.

winter fruit grain insects summer

Grades 6, 7, and 8.

The directions for giving the test were the same as for the 3, 4, and 5 grades. The questions follow:

No. 1 (Rate value 9; comprehension value 2.0).—

Mrs. Bird was a timid, blushing little woman about 4 feet in height, and with mild blue eyes, and a peachblow complexion, and the gentlest, sweetest voice in the world.

How tall was Mrs. Bird?

No. 2 (Rate value 7; comprehension value 2.1).—

Carbon dioxide is injurious to people. Plants give off carbon dioxide at night and take it up in the daytime.

Is it a good plan to have plants in the room where you sleep?

No. 3 (Rate value 13; comprehension value 2.7).—

Everyone hates a tattler. The tattler is the object of disgrace on any playground. But everyone respects a truth-teller when wrong has been done. A little girl of 9 was brought into court as a witness to tell all she knew of a crime that had been committed.

Will she be disgraced if she tells what she knows? Answer "Yes" or "No."

No. 4 (Rate value 14; comprehension value 2.8).—

England is the southern and Scotland is the northern part of the island called Great Britain. England is larger than Scotland, and the land is much richer, and produces better crops. Scotland is full of hills and wilderness, which bear no corn, and afford but little food for sheep or cattle.

From reading the above paragraph in which country would you think there would be the most people?

England Scotland

No. 5 (Rate value 11; comprehension value 3.2).—

The caravan, stretched out upon the desert, was very picturesque; in motion, however, it was like a lazy serpent. By and by its stubborn dragging became intolerably irksome to Balthasar, patient as he was.

Place a line under the word which tells in what respect the caravan resembled a serpent.

color length motion size

No. 6 (Rate value 19; comprehension value 3.3).—

It was the garden-land of Antioch, with not a foot lost to labor. Even the hedges, besides the lure of shade, offered passers-by sweet promises of wine and clusters of purple grapes. Over melon patches, and through apricot and fig tree groves, and groves of oranges and limes, the whitewashed houses of the farmers were seen.

Draw a line under the word given below that tells what kind of land this was.

barren hilly productive infertile desert

No. 7 (Rate value 16; comprehension value 3.7).—

Down swept the chill wind from the mountain peak,
From the snow five thousand summers old;
It carried a shiver everywhere
From the unleafed boughs and pastures bare;
The little brook heard it and built a roof
'Neath which he could house him winter-proof;
All night by the white star's frosty gleams
He groined his arches and matched his beams.

Draw a line under the word that you think the brook might build a roof of.

shingles paper grass ice wood

No. 8 (Rate value 12; comprehension value 3.7).—

Judah walked to the pilot's quarter. So absorbed was he in thought that he scarcely noticed the shores of the river, which were surpassingly beautiful, with orchards of fruits and vines.

If he is interested in the beauties around him, put a line under beautiful; if these beauties have no interest for him, put a line under shadow.

beautiful shadow

No. 9 (Rate value 14; comprehension value 3.8).—

Her couch was dressed with here and there some winter berries and green leaves, gathered in a spot she had been used to favor. "When I die, put near me something that has loved the light, and had the sky above it always." Those were her last words.

Draw a line under the word that names what the girl had loved most.

pretty clothes nature money candy to play

No. 10 (Rate value 18; comprehension value 4.0).—

As a race, the Indians have withered from the land. Their arrows are broken, their council-fire has long since gone out on the shore, and their war cry is fading to the untrodden West. Slowly and sadly they climb the distant mountains, and read their doom in the setting sun. They must soon hear the roar of the last wave which will settle over them forever.

Draw a line under the word which you think tells best how the Indians feel.

happy angry excited sad tired

No. 11 (Rate value 8; comprehension value 4.1).—

Blow, blow, thou winter wind,
Thou art not so unkind
As man's ingratitude;
Thy tooth is not so keen,
Because thou art not seen
Although thy breath be rude.

In the above paragraph with what is the wind compared?

No. 12 (Rate value 11; comprehension value 4.6).—

In front the purple mountains were rising up, a distant wall. Cool snow gleamed upon the summits. Our horses suffered bitterly for water. Five hours we had ridden through all that arid waste without a pause.

Draw a line under the word below that tells what kind of a country these people had been riding through.

mountainous swampy desert forest

No. 13 (Rate value 10; comprehension value 4.7).—

Tracking was very difficult. As there was total absence of rain, it was next to impossible to distinguish the tracks of two-days' date from those most recent upon the hard and parched soil.

Draw a line under the word below that tells what it was that made tracking difficult.

mud snow drougth rocks grass

Results of the reading test tabulated.

[Median scores—Rate and comprehension.]

WHITE SCHOOLS.

	Grades.																	
	III.			IV.			V.			VI.			VII.			VIII.		
	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.
Bruce	76	68.0	7.7	62	77.4	12.6	111	106.0	19.0	87	101.3	14.7	96	103.0	18.0	65	115.5	19.9
Church Home	10	56.0	11.0	11	104.3	16.5	5	78.5	13.7	....	......	....	....	......	....	....	......	....
Cummings	77	67.0	8.2	71	96.0	16.7	....	......	....	65	160.0	15.6	....	......	....	28	160.0	18.0
Gordon	55	116.0	12.8	54	88.0	14.8	51	106.0	18.3	39	114.3	18.8	30	148.5	24.8	22	115.3	23.3
Guthrie	74	70.1	9.0	63	103.5	11.6	38	76.4	10.7	57	151.0	20.0	....	......	....	36	137.6	27.9
A. B. Hill	99	78.8	10.0	59	72.5	9.6	105	80.3	13.2	68	103.2	10.6	57	104.3	15.8	45	132.8	19.5
Idlewild	61	67.6	7.8	78	92.3	15.8	74	91.7	15.0	77	114.5	19.7	69	115.8	21.0	53	158.5	21.0
Lauderdale	81	65.3	8.8	92	81.0	14.3	93	87.1	14.8	61	111.6	20.6	75	111.4	21.4	67	115.5	27.0
Leath	76	69.3	6.7	95	79.8	11.2	58	94.3	17.6	57	132.3	21.0	41	113.5	18.4	34	131.0	10.7
Leath Orphanage	6	51.0	9.0	9	63.5	14.0	....	......	....	....	......	....	....	......	....	....	......	....
Lenox	....	......	....	....	......	....	28	82.3	14.0	35	115.3	15.0	43	131.0	31.7	31	113.5	16.5
Madison Heights	55	80.0	12.0	33	96.0	14.1	38	87.7	15.0	53	148.1	26.7	39	154.8	30.0	31	160.0	29.0
Maury	....	......	....	....	......	....	....	......	....	....	......	....	....	......	....	....	......	....
Merrill	66	51.0	7.4	77	69.6	12.2	69	87.3	14.9	70	102.2	15.0	44	103.9	12.0	31	131.0	19.5
Peabody	57	66.6	7.6	71	88.5	13.2	54	84.0	13.0	63	111.7	14.0	42	111.8	20.0	36	131.0	18.8
Pope	....	......	....	....	......	....	74	89.6	14.3	62	104.6	16.1	25	151.0	25.3	13	160.0	30.0
Riverside	93	68.3	9.0	80	72.0	11.6	95	112.4	14.5	48	103.5	18.5	35	136.0	11.0	12	112.3	10.2
Rozelle	45	69.3	11.0	66	79.7	12.3	54	86.0	14.6	43	135.2	27.3	52	118.5	22.5	36	138.5	22.0
Smith	27	131.0	27.8	33	90.0	12.8	71	95.5	15.0	61	115.0	13.2	30	102.7	16.0	25	160.0	27.8
Snowden	37	80.0	12.0	56	81.0	14.8	42	121.3	23.6	38	133.6	21.0	37	160.0	32.0	26	153.0	29.6
St. Paul	53	55.4	8.3	....	......	....	38	69.6	11.6	45	141.0	25.5	35	133.8	18.4	22	154.3	18.0

Results of the reading test tabulated—Continued.

NEGRO SCHOOLS.

	Grades.																	
	III.			IV.			V.			VI.			VII.			VIII.		
	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehsnsion score.	Number of pupils.	Rate score.	Comprehension score.	Number of pupils.	Rate score.	Comprehension score.
Caldwell	23	77.3	12.5	24	67.3	13.0	9	81.0	16.5	7	66.0	39.0	....	....	....	....	....	....
Carnes	....	....	....	....	....	....	50	92.3	15.5	....	....	....	....	....	....	....	....	....
Charles Avenue	....	....	....	6	123.5	20.0	9	116.0	27.0	5	136.0	35.0	....	....	....	....	....	....
Grant	74	63.5	12.8	64	122.1	16.6	49	78.1	13.4	35	51.8	9.9	67	74.6	10.4	41	89.0	14.5
Greenwood	....	....	....	47	89.6	8.0	50	92.7	14.4	26	136.0	15.0	23	145.0	26.4	....	....	....
Klondike	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Kortrecht Grammar	63	65.5	9.8	63	123.9	15.8	53	105.0	16.7	45	75.4	10.6	13	137.6	23.0	....	....	....
La Rose	148	78.4	14.9	100	89.3	11.9	85	103.5	14.3	61	91.0	10.7	32	123.5	9.2	....	....	....
Porter	79	121.0	14.8	67	123.6	25.8	47	124.0	22.0	....	....	....	25	151.0	18.0	....	....	....
Virginia Avenue	72	67.3	7.1	65	70.5	11.8	65	91.0	15.0	56	91.0	6.7	12	55.2	11.0	....	....	....

Comparison of standard median scores with median scores of Memphis.

	White, Negro, and entire system, by grades.																	
	III.			IV.			V.			VI.			VII.			VIII.		
	Total number of pupils.	Rate score.	Comprehension score.	Total number of pupils.	Rate score.	Comprehension score.	Total number of pupils.	Rate score.	Comprehension score.	Total number of pupils.	Rate score.	Comprehension score.	Total number of pupils.	Rate score.	Comprehension score.	Total number of pupils.	Rate score.	Comprehension score.
Standards	5,638	56.1	8.8	5,651	77.3	14.8	5,435	90.4	19.4	4,915	90.6	20.9	3,886	98.2	24.4	3,030	107.8	28.5
Memphis white schools	1,021	68.0	8.9	1,010	80.1	13.2	1,098	91.3	14.8	1,029	113.2	17.3	750	114.7	20.6	613	136.6	23.9
Memphis Negro schools	459	76.7	11.6	438	92.4	13.0	417	96.0	15.5	235	74.5	10.1	172	111.6	11.9	41	89.0	14.0
Entire system	1,480	70.0	9.7	1,448	80.8	13.1	1,.515	92.4	14.9	1,264	112.8	16.1	922	114.3	19.5	654	134.6	21.0

Certain schools and individual grades had to be excluded for various reasons. It is our belief that the results are reasonably dependable in spite of the fact that the teachers who gave the tests had had little experience in giving tests of this sort. The results were checked as closely as possible.

INTERPRETATION OF RESULTS.

White schools—Comprehension.—The third grades as a group are just a little above the general standard; the fourth grades are below standard, but not far below; the fifth grades just reach fourth-grade standard; the sixth grades reach a score half way between fourth and fifth grade standards; the seventh grades fail to reach sixth-grade standard; while the eighth grades fail to reach seventh-grade standard. On the whole, each grade is about a year behind what it ought to do.

White schools—Rate.—Each group of grades exceeds the standard for the grade.

Negro schools—Comprehension.—The Negro schools are above standard only in the third grade. They excel the white schools in the third and fifth grades only.

Negro schools—Rate.—As in the white schools, the Negro schools excel the standards for each grade and exceed the white schools in the third, fourth, and fifth grades, but fall behind the white children in the upper grades.

The entire system—Comprehension.

Memphis grades.		Standard grade.
Third	Reached	Third.
Fourth	Below	Fourth.
Fifth	Reached	Fourth.
Sixth	Slightly above	Fourth.
Seventh	Equals	Fifth.
Eighth	Slightly above	Sixth.

The entire system—Rate.—The reading rate in the third, fourth, and fifth grades seems normal, while in the sixth, seventh, and eighth grades far above the standards.

On the whole, the children seem to read too fast and too superficially. Many of the schools appear to have attained far better results in silent reading than others, largely because some of the teachers practice silent reading with the children while others do not. The results show a most imperative demand for supervision and adequate instruction upon the proper method in reading. Calling words rapidly is not reading.

METHODS USED IN TEACHING READING.

The prevailing custom in the reading recitation is to have the children stand on the floor around or at the side of the room. They lean against the wall and appear lifeless and uninterested. They read in turn around the class, often one child "going above" another because of the failure of a child to pronounce or call a word correctly. Many children were noted "counting down the line" in order to discover their number that they might select the paragraph that would be likely to fall to them, devoting themselves to the silent reading thereof in order that they might read their assignment well. There is no questioning on the part of the teacher to bring out the thought or beauty of the selection read, nor effort made to discover the comprehensive understanding of the children regarding what is read. There is no work of commendation to encourage the pupil in his effort to read well. Comments such as "John, read," "Virginia, next"; "That word in the second line is magnifi*cent*, not magnifi*cence*. You must be more careful about your words"; "If you watched your pauses, you would read better"; "You must study harder on your reading at home"; "We went over all these new words yesterday; you ought to know them"; "Who noticed a mistake"; "Any criticisms," etc., were so common that the rare exception found where children were reading for joy, appreciation, and understanding leads us to believe that little or no thought is given to the aims and purposes of teaching reading, nor to the methods of instruction.

Reading over the lessons with the children and teaching them to pronounce the difficult words in order that they may take their books home and return to school the next day to read the selection, "call the words," is not teaching children to read but hearing them read. Dull grind upon words will not make good readers in any sense. Interest is fundamental.

As has been pointed out, the mastery of the mechanics of reading must be secured in the lower grades. From the fourth grade on through the elementary schools the conscious effort of acquiring the art of reading in the primary grades has been expanded into the search for information and a cultivation of beauty, appreciation, and discrimination between good and bad literature. The reading period is the teacher's opportunity to open the doors of the children's minds to the richness and beauty of the finer things of life as expressed in song and story.

THE IMPORTANCE OF READING.

Reading is beyond comparison the most important of the conventional school exercises, not only because it provides the key for advancement in other departments of school in gaining information, but because it is the key to the world's great literature and acquaints us with the master minds in all fields of knowledge. "Reading is interpreting symbols, imaging the ideas, and thinking the thoughts symbolized."

From the fourth grade through the sixth the main work is to provide such material and motive that reading is still a delight. The exercises which are assigned during the period should be as varied in character as are the demands which are made upon the reader, both in and out of school.

Both oral and silent reading procedures should be continued from grades four through six by the assignment of independent study at the seats. For example, outlining on the blackboard, through a series of questions very definite things to be discovered or determined in silent reading, which during the recitation period should be used for testing thought; getting thought discussions and reproduction of the text, for quickening the reading pace; for testing retention content; and for oral reading.

The material should be mainly literary, though much should also correlate with civics, history, geography, nature study, and hygiene. In addition to a good basal text, there should be required the reading of, at least, two sets of supplementary readers for each of these grades. Books to be read for the joy and pleasure of reading. These books should be continued stories. For example, such stories as "Heidi," Kingsley's "Water Babies," "The Viking Tales," "Robinhood," "Two Years Before the Mast," "The King Arthur Tales," "Evangeline," and the like. The readers now assigned to these grades are not of such a character as to stimulate an interest in reading or a desire to read.

In grades seven and eight, emphasis in the reading period should be upon the reading and study of literature, poetry, and prose. This type of literature evolves the necessity of a teacher of breadth and culture, possessing a sympathetic spirit—one who can catch the author's feeling as well as comprehend his thought. Children in these years can be led to appreciate phases of sentiment in selections read, by first reading selected short passages from a long selection. For example, the cheerful sentiment as expressed in the first line of Whittier's "To a Barefoot Boy"; the humorous in Cowper's "John Gilpin's Ride"; the tender feelings of Tennyson's "Sweet and Low"; a thrill of patriotism in Macaulay's "Horatius"; the dramatic appeal of Shakespeare's "Julius Cæsar"; and the serious thought of the earlier stanzas of Gray's "Elegy Written in a Country Churchyard."

Children should not be required or expected to read and reread a school reader. The rereading of a book should come from the impelling interest in the story, which prompts the desire. Skill and power in reading is acquired by reading many books.

The reading lesson, of all the lessons of the day's program, should be a pleasure and not a task. It should always be reading to get at the thought and spirit of what is read—a careful and sympathetic study of the selection.

THE TEACHER'S PREPARATION.

Careful preparation of the reading lesson on the part of the teacher is as important as careful preparation for the history lesson. She must carefully study the selection that she may become acquainted with its beauty; and she must know the difficulties which her pupils will encounter. She must know the words that are new, the familiar words in unfamiliar meanings, the phrases that are puzzling, the peculiar customs and institutions not found in the child's own experience, and the situations and conduct that challenge and bewilder the child's own ethical judgment. She must know how to overcome all of these and along what road she will lead her pupils in the mastery of them.

We recommend that the teachers make a study of a few of the fine books that have been written on the subject of reading, such as Huey's "Psychology and Pedagogy of Reading," Klapper's "Teaching Children to Read," and Briggs' and Coffman's "Reading in Public Schools."

It will be helpful to teachers of every grade if they can answer affirmatively each of the following questions:

1. Do you make careful preparation for your reading recitation?
2. Do you know all of the new and difficult words and word groups in the lesson, and have you a plan for the development of the same?
3. Do you insist upon the standard in your recitations which will bring a permanent result—for example, (*a*) silent reading for thought getting; (*b*) oral reading (and oral reproductions) for thought giving?
4. Do you insist upon the good expression of every thought read?
5. Do you question for expression?
6. Do you insist on good, clear, distinct enunciation and pronunciation?
7. Do you talk with your pupils about the story at the close of the recitation, often calling attention to the beautiful passages in the lesson?
8. Do you have occasional sight-reading lessons for testing your pupils' power?
9. Do you have daily phonetic and vocal drill for enunciation and pronunciation?
10. Are your pupils intelligent readers?
11. Can your pupils read anything of equal grade as intelligently as they do their own readers?
12. Are your pupils able to reproduce selections read, connectedly?

ENUNCIATION AND PRONUNCIATION.

We recommend that more attention be given to the glaring weakness in the ability of children to enunciate clearly and pronounce clearly and distinctly the spoken word, which is a general weakness of the American people. Pupils should have daily practice in repeating elementary sounds, also in pronouncing the consonant combinations composed of these sounds. Without clear and distinct articulation there can be no correct pronunciation. This fault can only be corrected by continuous drill exercises, which will make for correct habits. Faulty enunciation may be due to some defect of the vocal organs. Faulty pronunciation to carelessness or ignorance, pure and simple. To correct these errors should be the object of a definite period of the day, for they are serious defects.

Faulty articulation may arise from several causes: (*a*) The omission of a sound (histry for history); (*b*) the use of more sound than is necessary (ca'Ow for cow); (*c*) substitution of the wrong sound (jist for just).

A well-graded scheme for phonetics, including exercises for drills in articulation, enunciation, pronunciation, and open tone, would greatly improve the reading in the schools. This should be built upon the system of phonics developed for the lower grades.

THE NEED FOR TRAINING IN THE USE OF LANGUAGE.

The aim or object of language instruction in the earlier years of school is not to give the children a technical knowledge of grammatical construction, but to train them to facility, accuracy, forcefulness, and elegance of expression in oral speech and in writing, to cultivate a discriminating taste as to literature, and the ability and tendency to read good books with intelligent appreciation.

The fundamental reason for teaching language, insisting upon its proper use, rests upon the intimate relation of thinking and expression. Clear and accurate thinking and clear and accurate expression are mutually dependent, hence, it must follow that the power to think clearly and logically is very imperfect when expression is imperfect.

English language composition is the most important subject taught in our schools because it is the basis of all thinking; and consequently of all subjects of knowledge. It should be cultivated to as high a degree as possible for the purpose of thought training and organization, and in order that we may have the power of communicating our thoughts and feelings to our fellow beings.

How does a child naturally learn to use language? At first altogether and always chiefly by sheer imitation. There is no other way than this. Vocabulary is a matter of memory. The "art of language consists in using the remembered vocabulary in artistic and effective combinations, and such combinations are for the most part imitations."

Language is a habit. The child learns to talk by adopting for his own vocabulary and style the colloquial speech which he hears.

THE VALUE OF FACILITY IN ORAL SPEECH.

Of the two phases of language work, oral and written composition, oral speech and conversation are the more important to the majority of the children of the public schools. The best gift with which we can send children into active life is the ability to talk intelligently and entertainingly. There is too much writing and too little talking demanded in the schools. To stand on one's foot and tell what one knows is as valuable as it is rare, for in a country like ours, governed by the people, the value of the power to express thought can hardly be overestimated. People convene in caucuses, mass meetings, church meetings, school meetings, commercial clubs, county conventions, etc., to confer upon questions of vital interest to the individual, the family, and the State. How often, at such gatherings, a person who has intelligent and well-defined views and who fairly burns with a desire to make his opinions known is compelled to remain silent because he has not acquired the art of speaking in the presence of his peers upon subjects with which he is perfectly familiar.

Oral exercises should be planned so as to afford opportunities for vigorous and interesting expression. By such exercises there may be obtained much practice in good style and sentence construction so that many of the mistakes and weaknesses commonly seen in written expression can be anticipated and prevented. The literature, reading, history, geography, nature study, games, and activities demand from the pupil extended and connected speech. In these subjects the topical recitation should be practiced, the children talking from an outline.

The telling of stories and anecdotes is instructive and affords a wholesome amusement. At times as an application of silent reading or thought getting, stories in literature and history (after proper preparation) may profitably be read independently by the pupils and reproduced in informal short talks to the class. Reports on home reading, on traveling, or on adventure are also interesting. Individual contributions of stories new to the class, putting the pupil in the position of an actual story teller, also stories of personal experience of interesting happenings at school, at home, and on the street, cultivate not only the imagination but are aids to the development of good literary style.

The description and explanation of games, objects of nature study, places, persons, and the operations and processes of agriculture and manufacturing industry, so far as the grade work offers opportunities, are strong stimuli for oral expression.

There should be patriotic stories read and told in connection with the celebration of holidays. The dramatization of suitable stories and poems and the presentation of simple plays, based on literature and history stories that the pupils themselves have composed, should be encouraged.

In oral exercises whether the pupil is talking from notes or without notes he should be led to keep to his subject and to proceed clearly and coherently. In all oral work and particularly in the telling of stories note the natural parts of a subject as instruction toward good planning and paragraphing. Often in the retelling of stories different parts at times should be given by different pupils. Throughout the year, in conducting the oral English lessons, there should be kept in mind the specific needs of the pupils.

HABIT DETERMINES THE FORM OF SPOKEN LANGUAGE.

In the earlier stages of a child's learning language, rules are ineffective. With advancing maturity and logical powers they become increasingly more important as clinching and putting into convenient and condensed form the principle and language customs that have already been demonstrated and imitated by the learner. Only when they record experience are these rules of great value—a fact that should bear directly on our method of teaching.

The first essentials in teaching language to children are good models to imitate and good thought to express with the desire to express it.

Before a child comes to school his models are chiefly the oral speech of the family and his playmates. Among the members of any class entering schools there are wide differences of vocabulary both in extent and character. In the first few years of the school life the teaching of language is mainly incidental, and undoubtedly for this very reason especially effective. The source of a new vocabulary and the materials from which to draw for the development of a new vocabulary are vast, the range of experiences which may be grouped or classified as personal, social, and industrial as well as all the subjects of the school curriculum contributing to this end.

We may bend every effort to the breaking point to eliminate objectionable words, phrases, and idioms, and to secure clearness of expression for the purpose of clearness and accuracy of thinking, we may possibly give a sort of veneer to the language by constant drill on correct models, but we shall develop no permanent power in the use of language, without coming to a full realization that, (1) the mere form of correct and elegant English is of no value if there is no thought in it, and, (2) also we must believe to the knowing point that if written language is forced before there is sufficient mastery of the oral, that the result is arrested development; (3) and foremost and above all, we must not ask the pupils to think on an empty mind.

We may drill parrot-like on correct forms, we may emblazon our blackboards with them to appeal to the sense of sight, we may fill in blanks with the correct word, until the trick seems automatic, we may call for original sentences from barren ground until the verbs, "go," "see," and "to be" are threadbare, we may have dictation work and copying by the page, we may teach the kinds of sentences and the parts of speech, but when it comes to the actual everyday living experience our pupils are going to talk with their spinal cords instead of their brains, they are going to do that which habit in their real (not school) life has fastened upon them and they are going to say *blowed* for *blow*, *me* for *I*, and *aint got no* for *have no*, *have went* for *have gone*, etc.

Furthermore, these incorrect forms belong to spoken language, and if ever overcome it must be by establishing right habits in spoken language.

The great majority of people have less use for written language than is generally supposed. Everyone needs spoken language, the humblest laborer as well as the professional man, and the speech is not only a criterion by which his social qualities may be determined. but an index to his character, an index to his thinking. Spoken language is easier to correct and of more consequence to the average person.

The amount of oral language work in the Memphis schools should be increased until it stands three to one. So intimate is the reciprocal relation of spoken and written language that after a correct oral form has been acquired the correct written form will usually follow.

If no attempt is made to force technique upon pupils before it is needed, teachers will find their work better, the difficulties reduced in number and easily classified. As difficulties arise and definite instruction is required, such instruction should be given in definite lessons and repeated until the points are made perfectly clear and right habits started.

John Locke expressed an important principle when he said, "What you think it is necessary for children to do, settle in them by indispensable practice." Imitation, practice, and habit—not rules, formulas, and definitions—should be in the mind of the teacher of English. "It is constant use and practice under never-failing watch and corrections that make good writers and speakers." By the above means the English in any school may be made effective, and effective English work in one school makes possible such work in all schools.

GRAMMAR IN THE ELEMENTARY SCHOOLS.

Grammar is too greatly emphasized in the Memphis schools. Grammar looks to words and their classification. It has its place in the high school and college but as a part of practical education such as is intended to be given in the elementary school it has but little place. However, throughout the grades many facts regarding the structure of language can be taught incidentally, but anything approaching a systematic study of the generalizations of grammar should certainly be deferred to the upper grades at least. The following outline comprises all that the staff would recommend for the sixth, seventh, and eighth grades.

Sixth grade:

1. Kinds of sentences—as to use—drill in construction of sentences.
2. Nouns—common, proper.
    - (*a*) Number.
    - (*b*) Gender.
3. Pronouns—personal. Much drill for ear training on such forms as "It is I," "It is he," "If I were you, I would go."
4. Verbs—recognize; use in sentences.

Sixth grade—Continued.

5. Adjectives—recognize; use in sentences; use of articles a–an.
6. Adverbs—recognize; use in sentences.
7. Distinguish between adjectives and adverbs.
8. Prepositions and prepositional phrases.
9. Conjunctions—recognize; illustrate.
10. Interjections—recognize; illustrate.
11. Expletives—recognize; illustrate.

Seventh grade:

1. The noun.
    - (*a*) Definition or test.
    - (*b*) Classes—common and proper; study of capitalization.
    - (*c*) Inflections or properties.
        - (1) Gender—drill on correlatives in gender.
        - (2) Person—drill in use of comma with first person.
        - (3) Number—drill on formation of plurals.
        - (4) Case—points to be emphasized. Case and case relation. Formation of possessives. Syntax.
2. The pronoun.
    - (*a*) Definition or test.
    - (*b*) Classification.
        - (1) Personal—drill on declension and syntax. Use of compound personal.
        - (2) Relative.
        - (3) Interrogative—drill on expressions similar to the following: "To whom are you speaking?" "Whom did you see?"
        - (4) Adjective—drill on use of this, that, these, those.
3. Points for special study on the pronoun.
    - (*a*) Declension.
    - (*b*) Case and case relation.
    - (*c*) Syntax.
4. Clauses as to use.
    - (*a*) Adjective—the relative pronoun; declension, case, and case relation to be taught in connection with the adjective clause.
    - (*b*) Adverbial.
    - (*c*) Noun.

Eighth grade:

1. Sentences as to form.
    - (*a*) Simple.
    - (*b*) Compound.
    - (*c*) Complex.
2. Verbs as to use—Intransitive, copulative, transitive.
3. Complements.
    - (*a*) Attribute, object, factitive.
    - (*b*) In connection with the complements teach the case relation of nouns and pronouns; also the use of adjectives with the attribute and factitive.
4. Indirect object (objective or dative case). Teach case and case relation to indirect object.
5. Study of prepositional phrase.
6. Participles and infinitives.
7. Special study of adjective, adverb, preposition, conjunction, and interjection.

5. THE TEACHING OF SPELLING.

THE AYRES SPELLING TEST.

In testing the spelling ability of the children of the Memphis schools the Ayres Spelling Scale was used. The scale is made up of 1,000 words most commonly used in correspondence, business, and books. The words are arranged in groups in order of difficulty as determined by tests given in 84 cities. Ten words were given each grade, each test being selected from the group of words upon which the grade average for 84 cities was 73 per cent. In other words, each grade in Memphis was given a spelling test upon which thousands of children in the United States in corresponding grades had averaged 73 per cent. The tests used are as follows:

Second Grade.

1. Nine.
2. Got.
3. Spring.
4. Stone.
5. Fall.
6. Put.
7. Monday.
8. Take.
9. Its.
10. Sold.

Third Grade.

1. Catch.
2. Able.
3. Fell.
4. Soap.
5. Express.
6. Table.
7. Road.
8. Power.
9. Another.
10. Church.

Fourth Grade.

1. Eight.
2. Aboard.
3. Restrain.
4. Population.
5. Figure.
6. Everything.
7. Farther.
8. Knew.
9. Fact.
10. Public.

Fifth Grade.

1. Sometimes.
2. Period.
3. Firm
4. Crowd.
5. Relative.
6. Serve.
7. Due.
8. Ledge.
9. Information.
10. Present.

Sixth Grade.

1. Often.
2. Total.
3. Examination.
4. Marriage.
5. Opinion.
6. Witness.
7. Theater.
8. Supply.
9. Course.
10. Doubt.

Seventh Grade.

1. Meant.
2. Distinguish.
3. Assure.
4. Probably.
5. Responsible.
6. Difficulty.
7. Develop.
8. Material.
9. Senate.
10. Agreement.

Eighth Grade.

1. Organization.
2. Emergency.
3. Appreciate.
4. Sincerity.
5. Athletic.
6. Extreme.
7. Practical.
8. Proceed.
9. Cordially.
10. Character.

Results of spelling test in white schools.

Schools and grades.	Boys.	Words correct.	Per cent correct.	Girls.	Words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Bruce School:									
Grade II	45	354	78.6	35	274	78.2	80	628	78.0
Grade III	41	335	81.7	33	294	89.0	74	629	85.0
Grade IV	33	265	80.3	34	312	91.7	67	577	86.1
Grade V	55	463	84.1	65	564	86.7	120	1,027	85.0
Grade VI	45	341	75.7	45	369	82.0	90	710	78.8
Grade VII	48	355	73.9	51	420	83.0	99	775	77.0
Grade VIII	32	233	72.8	28	222	80.0	60	455	76.0
Total	299	2,346	78.4	291	2,455	84.0	590	4,801	81.3
Church Home:									
Grade II	3	26	86.0	3	28	93.0	6	54	90.0
Grade III	2	20	100.0	8	75	93.0	10	95	95.0
Grade IV	1	8	80.0	10	90	90.0	11	98	89.0
Grade V	......	......	......	5	42	84.0	5	42	84.0
Grade VI	......	......	......	......	......	......	......	......	......
Grade VII	......	......	......	......	......	......	......	......	......
Grade VIII	......	......	......	......	......	......	......	......	......
Total	6	54	90.0	26	235	90.0	32	289	90.0

Results of spelling tests in white schools—Continued.

Schools and grades.	Boys.	Words correct.	Per cent correct.	Girls.	Words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Cummings School:									
Grade II	43	321	74.6	33	222	67.3	76	543	71.4
Grade III	37	334	90.2	40	345	86.2	77	679	88.2
Grade IV	34	276	83.0	36	276	76.6	70	552	78.8
Grade V	32	221	69.0	40	306	76.5	72	527	73.2
Grade VI	23	182	79.1	38	331	87.0	61	513	84.0
Grade VIII	17	136	80.0	26	218	83.0	43	354	82.0
Grade VIII	9	82	91.0	18	172	95.0	27	254	94.0
Total	195	1,552	79.5	231	1,870	80.9	426	3,422	80.3
Gordon School:									
Grade II	21	172	82.0	18	160	89.0	39	332	84.0
Grade III	27	258	95.0	30	283	94.0	57	541	94.0
Grade IV	33	253	76.0	25	188	75.2	58	441	76.0
Grade V	26	204	78.0	31	255	82.0	57	459	81.0
Grade VI	14	116	82.0	32	280	87.0	46	396	86.0
Grade VII	14	121	80.0	20	163	85.0	34	284	83.0
Grade VIII	9	67	74.0	17	137	81.0	26	204	78.0
Total	144	1,191	82.7	173	1,466	84.1	317	2,657	83.8
Guthrie School:									
Grade II	46	326	70.9	45	371	82.4	91	697	76.6
Grade III	39	317	81.3	38	278	73.1	77	595	77.0
Grade IV	33	225	68.0	29	201	69.3	62	426	69.0
Grade V	17	118	69.0	18	141	78.0	35	259	74.0
Grade VI	22	160	72.7	31	244	78.7	53	404	76.0
Grade VII	35	256	73.1	26	217	83.4	61	473	77.0
Grade VIII	....	....	....	....	....	....	....	....	....
Total	192	1,402	72.9	187	1,452	77.6	379	2,854	75.3
A. B. Hill School:									
Grade II	53	328	61.9	53	340	64.1	106	668	63.0
Grade III	45	332	73.7	56	471	84.0	101	803	79.0
Grade IV	32	198	60.9	56	381	68.0	88	579	65.8
Grade V	53	389	73.0	51	385	75.0	104	774	74.3
Grade VI	32	203	63.0	37	274	74.0	69	477	69.0
Grade VII	21	124	59.0	38	252	66.0	59	376	63.7
Grade VIII	19	131	68.0	26	192	73.0	45	323	71.0
Total	255	1,705	66.8	317	2,295	72.0	572	4,000	70.0
Idlewild School:									
Grade II	36	267	74.3	38	322	84.7	74	589	79.6
Grade III	30	232	77.0	35	310	88.5	65	542	83.4
Grade IV	24	179	74.5	26	187	71.9	50	366	73.2
Grade V	34	256	75.3	39	312	80.0	73	568	77.8
Grade VI	46	334	74.7	37	301	81.3	83	635	76.1
Grade VII	28	217	77.5	42	310	73.8	70	527	75.2
Grade VIII	29	226	78.0	26	217	83.5	55	443	80.5
Total	227	1,711	75.8	243	1,959	80.6	470	3,670	78.1
Lauderdale School:									
Grade II	49	413	84.0	56	480	85.7	105	893	85.0
Grade III	37	325	87.8	43	397	92.3	80	722	90.0
Grade IV	48	367	76.5	44	347	77.9	92	714	77.6
Grade V	39	323	82.8	58	477	82.2	97	800	82.4
Grade VI	51	405	79.4	38	333	87.6	89	738	82.9
Grade VII	32	241	75.3	55	450	81.8	87	691	79.4
Grade VIII	22	153	69.5	45	379	84.2	67	532	79.2
Total	278	2,227	80.1	339	2,863	84.4	617	5,090	82.4
Leath School:									
Grade II	39	288	74.1	34	240	70.6	73	528	72.3
Grade III	39	272	69.7	34	266	77.6	73	538	73.7
Grade IV	38	273	71.8	54	435	80.5	92	708	76.4
Grade V	32	263	82.9	27	203	75.1	59	466	79.0
Grade VI	28	225	80.3	30	237	79.0	58	462	79.6
Grade VII	17	129	76.0	22	176	80.0	39	305	78.2
Grade VIII	12	97	80.8	23	186	80.8	35	283	80.8
Total	205	1,547	75.4	224	1,743	77.8	429	3,290	76.6

Results of spelling tests in white schools—Continued.

Schools and grades.	Boys.	Words correct.	Per cent correct.	Girls.	Words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Leath Orphanage:									
Grade II	3	29	96.0	2	15	75.0	5	44	88.0
Grade III	4	35	87.0	2	19	95.0	6	54	90.0
Grade IV	1	8	80.0	7	56	80.0	8	64	80.0
Grade V									
Grade VI	1	9	90.0	6	52	86.6	7	61	87.0
Grade VII				5	39	78.0	5	39	78.0
Grade VIII									
Total	9	81	90.0	22	181	82.2	31	262	84.5
Lenox School:									
Grade II	30	239	79.6	13	107	82.3	43	346	80.4
Grade III	22	180	82.0	18	151	83.0	40	331	83.0
Grade IV	22	136	62.0	10	74	74.0	32	210	66.0
Grade V	13	80	60.0	14	121	80.0	27	201	70.4
Grade VI	16	137	85.6	20	186	90.3	36	323	89.7
Grade VII	20	181	90.5	21	186	88.6	41	367	89.5
Grade VIII	11	64	58.2	21	154	73.3	32	218	68.1
Total	134	1,017	75.8	117	979	83.6	251	1,996	79.5
Madison Heights School:									
Grade II	12	112	93.3	25	226	90.4	37	338	91.3
Grade III	33	291	88.1	21	197	93.8	54	488	90.3
Grade IV	18	148	82.2	14	120	85.7	32	268	83.8
Grade V	21	167	79.5	16	128	80.0	37	295	80.0
Grade VI	27	123	45.5	22	107	49.0	49	230	47.0
Grade VII	20	145	72.5	21	174	82.3	41	319	77.6
Grade VIII	13	97	75.0	18	161	90.0	31	258	85.0
Total	144	1,083	75.2	137	1,113	81.2	281	2,196	78.1
Maury School:									
Grade II	35	273	78.0	40	340	85.0	75	613	81.7
Grade III	37	320	86.4	38	339	89.2	75	659	87.8
Grade IV	42	369	87.8	28	226	80.7	70	595	85.0
Grade V	51	389	76.2	38	319	83.9	89	708	79.5
Grade VI	24	180	75.0	42	363	86.4	66	543	82.1
Grade VII	32	250	78.1	34	285	83.8	66	535	81.0
Grade VIII	19	146	76.0	27	215	79.0	46	361	78.0
Total	240	1,927	80.2	247	2,087	84.5	487	4,014	82.4
Merrill School:									
Grade II	44	337	76.6	32	231	72.2	76	568	74.7
Grade III	39	308	78.9	30	263	87.6	69	571	82.7
Grade IV	42	356	84.8	37	299	80.8	79	655	82.9
Grade V	36	282	78.3	31	272	87.7	67	554	82.7
Grade VI	39	315	80.7	31	247	79.7	70	562	80.2
Grade VII	22	179	81.3	32	182	79.1	45	361	80.2
Grade VIII	7	57	81.4	22	185	84.0	29	242	83.0
Total	229	1,834	80.0	206	1,679	81.5	435	3,513	80.7
Peabody School:									
Grade II	42	256	60.9	41	279	68.0	83	535	64.4
Grade III	30	250	83.3	30	267	89.0	60	517	86.1
Grade IV	38	257	67.6	33	252	76.3	71	509	71.1
Grade V	20	150	75.0	34	225	66.1	54	375	69.4
Grade VI	29	196	67.6	35	275	78.5	64	471	73.6
Grade VII	24	209	87.0	20	155	77.5	44	364	82.7
Grade VIII	18	140	77.7	22	188	85.8	40	328	82.2
Total	201	1,458	72.5	215	1,641	76.3	416	3,099	74.5
Pope School:									
Grade II	33	243	73.6	39	281	72.0	72	524	72.7
Grade III	46	395	85.8	32	284	88.7	78	679	87.0
Grade IV	38	292	76.8	38	292	76.8	76	584	78.4
Grade V	38	286	75.2	39	305	78.2	77	591	76.7
Grade VI	26	188	72.3	42	211	50.2	68	399	58.7
Grade VII	10	65	65.0	25	188	75.0	35	253	72.0
Grade VIII	6	36	60.0	6	43	71.0	12	79	65.0
Total	197	1,505	76.4	221	1,604	72.6	418	3,109	73.5

Results of spelling tests in white schools—Continued.

Schools and grades.	Boys.	Words correct.	Per cent correct.	Girls.	Words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Riverside School:									
Grade II	54	401	74.2	40	283	70.7	94	684	72.7
Grade III	54	442	81.8	45	379	84.2	99	821	82.9
Grade IV	39	283	72.5	39	329	84.3	78	612	78.4
Grade V	46	358	77.8	52	421	80.9	98	779	79.4
Grade VI	22	191	86.8	26	218	83.8	48	409	85.2
Grade VII	20	139	69.5	17	119	70.0	37	258	69.6
Grade VIII	12	92	76.6	16	122	76.2	28	214	76.4
Total	247	1,906	77.1	235	1,871	79.6	482	3,777	78.3
Rozelle School:									
Grade II	26	195	75.0	37	303	81.8	63	498	79.0
Grade III	21	191	91.0	24	203	84.5	45	394	87.5
Grade IV	33	246	74.5	32	247	77.1	65	493	75.8
Grade V	27	189	70.0	26	187	71.9	53	376	70.9
Grade VI	19	147	77.3	26	222	85.3	45	369	82.0
Grade VII	23	182	79.1	29	219	85.8	52	431	82.9
Grade VIII	17	136	80.0	20	170	85.0	37	306	86.4
Total	166	1,286	74.4	194	1,581	81.5	360	2,867	79.7
Smith School:									
Grade II	33	290	87.8	36	278	77.2	69	568	82.3
Grade III	12	100	83.3	16	140	87.5	28	240	85.2
Grade IV	19	144	76.0	16	98	61.0	35	242	69.0
Grade V	38	295	77.6	33	273	82.7	71	568	80.0
Grade VI	29	233	80.3	32	247	77.1	61	480	78.7
Grade VII	11	81	74.0	16	122	76.0	27	203	75.0
Grade VIII	10	87	87.0	13	114	87.6	23	201	87.3
Total	152	1,230	80.9	162	1,272	78.5	314	2,502	70.1
Snowden School:									
Grade II	26	230	89.0	29	229	92.0	55	459	90.0
Grade III	19	177	93.0	19	182	96.0	38	359	94.4
Grade IV	33	305	94.0	21	204	94.5	54	509	94.0
Grade V	23	202	88.0	20	196	98.0	43	398	92.0
Grade VI	16	131	82.0	22	197	90.0	38	328	86.0
Grade VII	18	154	85.4	19	161	85.0	37	315	85.0
Grade VIII	9	87	96.6	21	202	96.2	30	289	96.3
Total	144	1,286	89.3	151	1,371	90.8	295	2,657	90.1
St. Paul School:									
Grade II	21	133	63.3	30	273	91.0	51	406	79.6
Grade III	32	282	88.0	22	188	82.0	54	470	85.5
Grade IV	24	186	71.0	19	163	77.5	43	349	73.0
Grade V	28	194	85.0	15	115	76.6	43	309	71.8
Grade VI	18	127	70.5	30	230	76.6	48	357	74.3
Grade VII	14	111	79.2	21	176	83.8	35	287	81.5
Grade VIII	9	60	66.6	14	112	80.0	23	172	74.7
Total	146	1,093	74.8	151	1,257	83.2	297	2,350	79.1
Vocational High School:									
Grade VII	25	184	73.0	31	242	76.0	56	426	75.0
Grade VIII	40	279	66.0	56	421	75.0	96	700	71.0
Total	65	463	72.0	87	663	76.2	152	1,126	74.1

Results of spelling tests in colored schools.

Caldwell School:									
Grade II	19	172	90.0	14	135	96.0	33	307	93.0
Grade III	6	54	90.0	15	135	90.0	21	189.	90.0
Grade IV	9	68	76.0	13	113	87.0	22	181	82.0
Grade V	5	48	97.0	17	161	95.0	22	209	96.0
Grade VI	6	56	93.0	6	60	100.0	12	116	97.0
Total	45	398	88.4	65	604	92.9	110	1,002	91.1
Carnes School:									
Grade II	46	314	63.9	43	378	87.9	89	692	77.7
Grade III	28	243	86.7	45	407	90.4	73	650	89.0
Grade IV	44	357	81.1	38	366	96.3	82	723	88.1
Grade V	12	96	80.0	41	345	84.1	53	441	83.2
Grade VI	12	95	79.8	34	297	87.3	46	392	85.2
Total	142	1,105	77.8	201	1,793	80.5	343	2,898	84.4

Results of spelling tests in colored schools—Continued.

Schools and grades.	Boys.	Words correct.	Per cent correct.	Girls.	Words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Charles Avenue School:									
Grade II	2	18	90.0	6	57	95.0	8	75	93.3
Grade III	3	29	96.6	3	29	96.6	6	58	96.6
Grade IV	4	35	87.5	2	20	100.0	6	55	91.6
Grade V	5	40	80.0	6	51	85.0	11	91	82.0
Grade VI	6	43	86.0	3	26	87.0	8	69	86.0
Total	19	165	86.8	20	183	91.5	39	348	89.2
Grant School:									
Grade II	26	222	85.3	35	319	91.1	61	541	88.7
Grade III	28	203	72.5	51	447	87.6	79	650	82.2
Grade IV	27	246	91.9	32	300	93.7	59	546	92.5
Grade V	18	60	33.3	29	180	66.2	47	240	51.0
Grade VI	5	26	52.0	13	84	64.0	18	110	61.0
Grade VII	14	102	72.8	42	314	74.7	56	416	74.3
Grade VIII	7	40	59.1	31	236	76.1	38	276	72.6
Total	125	899	71.9	233	1,880	80.6	358	2,779	77.6
Greenwood School:									
Grade II	33	289	88.0	29	256	88.0	62	545	88.0
Grade III	18	174	96.0	29	274	94.0	47	448	95.0
Grade IV	27	231	86.0	39	316	81.0	66	547	83.0
Grade V	27	206	76.0	23	182	79.0	50	388	78.0
Grade VI	8	58	73.0	18	133	74.0	26	191	74.0
Grade VII	5	29	58.0	17	116	68.0	22	145	66.0
Total	118	987	83.6	155	1,277	82.3	273	2,264	82.9
Klondike School:									
Grade II	24	233	97.0	25	239	94.8	49	470	95.9
Grade III	11	91	82.7	20	172	86.0	31	263	84.8
Grade IV	11	104	94.5	18	165	91.7	29	269	92.7
Grade V	16	94	58.7	20	159	79.5	36	253	70.2
Grade VI	13	111	85.1	18	164	91.1	31	275	88.7
Total	75	633	84.4	101	897	88.8	176	1,530	86.9
Kortrecht Grammar School:									
Grade II	48	355	73.9	51	386	75.6	99	741	74.8
Grade III	22	208	94.5	45	405	90.0	67	613	91.4
Grade IV	19	108	56.8	47	322	68.5	66	430	65.1
Grade V	16	120	75.0	27	207	76.6	43	327	76.0
Grade VI	11	100	90.9	37	312	84.3	48	412	85.8
Grade VII	5	31	60.0	6	50	83.3	11	81	73.0
Total	121	922	76.2	213	1,682	78.9	334	2,604	77.9
Kortrecht High School:									
Grade VII	27	219	81.1	50	415	83.0	77	634	82.3
Grade VIII	30	272	90.6	60	575	95.8	90	847	94.1
Total	57	491	86.1	110	990	90.0	167	1,481	88.6
La Rose School:									
Grade II	46	351	76.3	71	586	82.5	117	937	80.0
Grade III	60	497	82.8	88	818	92.9	148	1,315	90.2
Grade IV	31	212	68.3	49	343	70.0	80	555	69.3
Grade V	36	256	71.1	46	336	73.0	82	592	72.1
Grade VI	21	142	67.6	41	219	53.4	62	361	58.2
Grade VII	9	62	70.0	22	163	76.0	31	225	74.0
Total	203	1,520	74.8	317	2,465	77.8	520	3,985	76.6
Porter School:									
Grade II	32	266	83.0	56	471	84.0	88	737	83.0
Grade III	34	320	94.0	41	398	97.0	75	718	95.0
Grade IV	28	197	70.0	35	282	81.0	63	479	76.0
Grade V	11	67	60.9	18	108	60.0	29	175	60.3
Grade VI	8	67	83.7	18	163	90.5	26	230	88.4
Grade VII	6	39	65.0	18	137	76.1	24	176	73.3
Total	119	956	80.3	186	1,559	83.2	305	2,515	82.4
Virginia Avenue School:									
Grade II	50	375	75.0	46	345	75.0	96	720	75.0
Grade III	32	288	90.0	42	384	91.4	74	672	90.8
Grade IV	31	233	75.1	45	367	81.7	76	600	78.9
Grade V	24	147	61.2	42	269	64.1	66	416	63.0
Grade VI	17	119	70.0	37	279	75.4	54	398	73.7
Grade VII	4	23	57.5	9	82	91.1	13	105	80.7
Total	158	1,185	75.0	221	1,726	78.1	379	2,911	76.8

Summary of spelling tests distributed by grades.

WHITE SCHOOLS.

Name.	II Grade.			III Grade.			IV Grade.			V Grade.			VI Grade.			VII Grade.			VIII Grade		
	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
Bruce	80	628	78.0	74	629	85.0	67	577	86.1	120	1,027	85.0	90	710	78.8	99	775	77.0	60	455	76.0
Church Home	6	54	90.0	10	95	95.0	11	98	89.0	5	42	84.0	......	......	......	......	......	......	......	......	......
Cummings	76	543	71.4	77	679	88.2	70	552	78.8	72	527	73.0	61	513	84.0	43	354	82.0	27	254	94.0
Gordon	39	332	84.0	57	541	94.0	58	441	76.0	57	459	81.0	46	396	86.0	34	284	83.0	26	204	78.0
Guthrie	91	697	76.6	77	595	77.0	62	426	69.0	35	259	74.0	53	404	76.0	61	473	77.0	......	......	......
Hill	106	668	63.0	101	803	79.0	88	579	65.8	104	774	74.3	69	477	69.0	59	376	63.7	73	323	71.0
Idlewild	74	589	79.6	65	542	83.4	50	366	73.2	73	568	77.8	83	635	76.1	70	527	75.2	55	443	80.5
Lauderdale	105	893	85.0	80	722	90.0	92	714	77.6	97	800	82.4	89	738	82.9	87	691	79.4	67	532	79.2
Leath	73	528	72.3	73	538	73.7	92	708	76.4	59	466	79.0	58	462	79.6	39	305	78.2	35	283	80.8
Leath Orphanage	5	44	80.0	6	54	90.0	8	64	80.0	......	......	......	7	61	37.0	5	39	78.0	......	......	......
Lenox	43	346	80.4	40	331	83.0	32	210	66.0	27	201	70.4	36	323	89.7	41	367	89.5	32	218	68.1
Madison Heights	37	338	91.3	54	488	90.3	32	268	83.8	37	295	80.0	49	230	47.0	41	319	77.6	31	258	85.0
Maury	75	613	81.7	75	659	87.8	70	595	85.0	89	708	79.5	66	543	82.1	66	535	81.0	46	361	78.0
Merrill	76	568	74.7	69	571	82.7	79	655	82.9	67	554	82.7	70	562	80.2	45	361	80.2	29	242	83.0
Peabody	83	535	64.4	60	517	86.1	71	509	71.7	54	375	69.4	64	471	73.6	44	364	82.7	40	328	82.2
Pope	72	524	72.7	78	679	87.0	76	584	78.4	77	591	76.7	68	399	58.7	35	253	72.0	12	79	65.0
Riverside	94	684	72.7	99	821	82.9	78	612	78.4	98	779	79.4	48	409	85.2	37	258	69.6	28	214	76.4
Rozelle	63	498	79.0	45	394	87.5	65	493	75.8	53	376	70.9	45	369	82.0	52	431	82.9	37	306	86.4
Smith	69	568	82.3	28	240	85.2	35	242	69.0	71	568	80.0	61	480	78.7	27	203	75.0	23	201	87.3
Snowden	55	459	90.0	38	359	94.4	54	509	94.0	43	398	92.0	38	328	86.0	37	315	85.0	30	289	96.3
St. Paul	51	406	79.6	54	470	85.5	43	349	73.0	43	309	71.8	48	357	74.3	35	287	81.5	23	172	74.7
Vocational High	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	56	426	75.0	96	700	71.0
Total	1,373	10,515	76.5	1,260	10,727	85.1	1,233	9,551	77.4	1,281	10,076	78.6	1,149	8,867	77.1	1,013	7,943	78.4	770	5,862	76.1

NEGRO SCHOOLS.

Caldwell	33	307	93.0	21	189	90.0	22	181	82.0	22	209	96.0	12	116	97.0	......	......	......	......	......	......
Carnes	89	692	77.7	73	650	89.0	82	723	88.1	53	441	83.2	46	392	85.2	......	......	......	......	......	......
Charles	8	75	93.3	6	58	96.6	6	55	91.6	11	91	82.0	8	69	86.0	......	......	......	......	......	......
Grant	61	541	88.7	79	650	82.2	59	546	92.5	47	240	51.0	18	110	61.0	56	416	74.3	38	276	72.6
Greenwood	62	545	88.0	47	448	95.0	66	547	83.0	50	388	78.0	26	191	74.0	22	145	66.0	......	......	......
Klondike	49	470	95.9	31	263	84.8	29	269	92.7	36	253	70.2	31	275	88.7	......	......	......	......	......	......
Kortrecht Grammar	99	741	74.8	67	613	91.4	66	430	65.1	43	327	76.0	48	412	85.8	11	81	73.0	......	......	......
Kortrecht High	......	......	......	......	......	......	......	......	......	......	......	......	......	......	......	77	634	82.3	90	847	94.1
La Rose	117	937	80.0	148	1,315	90.2	80	555	69.3	82	592	72.1	62	361	58.2	31	225	74.0	......	......	......
Porter	88	737	83.0	75	718	95.0	63	479	76.0	29	175	60.3	26	230	88.4	24	176	73.3	......	......	......
Virginia Avenue	96	720	75.0	74	672	90.8	76	600	78.9	66	416	63.0	54	398	73.7	13	105	80.7	......	......	......
Total	702	5,765	82.1	621	5,576	89.7	549	4,385	79.9	439	3,132	71.1	331	2,554	77.1	234	1,782	77.4	128	1,123	87.7
Total entire system	2,075	16,280	78.4	1,881	16,303	86.6	1,782	13,936	78.2	1,720	13,208	76.6	1,480	11,421	77.0	1,247	9,725	77.9	898	6,985	77.7
Ayres average	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0

Summary of spelling tests in Memphis schools.

	II Grade.			III Grade.			IV Grade.			V Grade.			VI Grade.			VII Grade.			VIII Grade.		
	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.	Total pupils.	Total words correct.	Per cent correct.
White schools' total	1,373	10,515	76.5	1,260	10,727	85.1	1,233	9,551	77.4	1,281	10,076	78.6	1,149	8,867	77.1	1,013	7,943	78.4	770	5,862	76.1
Negro schools' total	702	5,765	82.1	621	5,576	89.7	549	4,385	79.9	439	3,132	71.1	331	2,554	77.1	234	1,782	74.4	128	1,123	87.7
Entire system's total	2,075	16,280	78.4	1,881	16,303	86.6	1,782	13,936	78.2	1,720	13,208	76.6	1,480	1,142	77.0	1,247	9,725	77.9	898	6,985	77.7
Ayres average	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0	......	......	73.0

OBSERVATIONS ON THE SPELLING TEST.

When the schools as wholes are considered, an examination of the foregoing tables discloses the fact that all, including the colored schools, passed the accepted standard of 73 per cent correct, except the A. B. Hill and the Smith Schools, each of which received a grade of 70 per cent. A number of the schools made an exceptionally fine showing, notably the Bruce, Church Home, Cummings, Gordon, Lauderdale, Maury, Merrill, and Snowden among the white schools, and the Caldwell, Carnes, Charles Avenue, Greenwood, Klondike, Kortrecht High, and Porter among the colored schools. These all reached or exceeded a grade of 80 per cent correct, three of them, the Church Home, the Snowden, and the Caldwell (colored), receiving the high grade of 90 per cent correct.

As to the grades taken separately, but for each group of schools (white and colored), it is seen that all passed the standard of 73 per cent correct except the fifth grade of the colored group, which received a rank of 71 per cent.

In comparing the white and colored groups it is interesting to note that, with the exception of the fifth grade and the seventh grade, the group of colored schools equaled or surpassed the record made by the corresponding grades of the white group.

A comparison between the showing made by the boys and that by the girls of each group is interesting; 38,750 words were attempted by the boys of the white schools, with 29,904 spelled correctly; this is a percentage right of 77.1; 41,760 words were attempted by the girls of the white schools, with 33,637 spelled correctly, 80.5 per cent.

Similarly with the schools of the colored group the girls made a better showing than did the boys, and it is to be noted that both the boys and girls of the colored group did better than those of the white group; the boys getting a rating of 78.3 per cent correct and the girls 82.6 per cent correct.

The results obtained in the foregoing test would seem to indicate that more time and attention is being given to the study of spelling than is necessary, and that it would be the part of wisdom to lessen cautiously the time devoted to this subject in order that more time can be given to subjects in which the showing made is not so good. Fifteen minutes per day should be ample time in which to master the relatively short list of words which investigations have shown is sufficient for all practical purposes. But, of course, this formal drill on spelling must be supplemented all along the grade line by careful attention to all written work, for children will grow careless if permitted.

6. THE TEACHING OF OTHER SUBJECTS IN THE ELEMENTARY GRADES.

MUSIC.

It is difficult to see what place in the lives of children the music in the Memphis schools fills. The quality of tone in the singing is uniformly so strident and heavy that little of beauty is produced. The rote songs sung in the lower grades are often poor in themselves, besides being sung poorly. On the side of expression one is forced to recognize that many priceless minutes that might be spent in singing that would lift and cheer and unite the group are spent in the most joyless and unmusical study of facts of musical notation. If these were facts about music that had lived gloriously in the lives of the children as song they would be alive and interesting. But they are made abstract, general; are applied to music that is not born yet, but that in some vague, future day may be discovered and experienced, or to no music at all—so great is the chasm between the musical theory taught and the music itself.

"Question and answer" forms of instruction are found in the music work as in other subjects. Often evidence abounded that the effort in "music" had fallen to nothing but a barren memory exercise, dealing with statements and definitions related at best to the printed symbols of staff notation and often not understood by the children even in this application. The examination questions in music, which fell under the observation of the survey members in the elementary department, will bear ample testimony to the accuracy of this judgment.

A detailed discussion of the teaching of this important subject of music will be found in Chapter VIII of this report.

ELEMENTARY SCIENCE—NATURE STUDY.

Elementary science is practically a negative quantity in the Memphis schools. Physiology, taught in the fourth grade, is the nearest approach to the subject. There are occasional topics more or less under the head of nature study taught in the various grades, but there is no well-defined course of study.

Physiology in the fourth grade is purely a textbook matter and is not at all of the character of health instruction that children ought to be getting.

The following examination questions indicate the nature of the facts the child is expected to learn. An examination of the text will reveal that these questions were intended to call forth the material of the text regardless of its value to the child:

1. What three things does physiology teach us?
2. (*a*) What is a muscle? (*b*) How may your muscle be strengthened?
3. (*a*) Name five different kinds of food and tell one thing which is obtained from each. (*b*) Which is the most perfect food and why?

4. Why is it harmful to eat too much or to eat between meals?
5. (*a*) Why is ice water harmful? (*b*) What are the best drinks?
6. Give five rules for taking care of the teeth.
7. (*a*) Name the juice in the stomach that aids digestion. (*b*) Name a juice in the intestines.
8. Define tendons; narcotic; saliva; enamel; oesophagus.
9. Why do children's bones mend more easily than those of grown people?
10. Why is wine a dangerous drink?

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1. Describe the heart.
2. How can you tell when an artery is cut?
3. How should we breathe and why?
4. What do the lungs do for the body? What is the effect of cigarette smoke on the lungs?
5. Tell how the body gets rid of its poisons and waste.
6. Why should we have the windows open while we sleep?
7. (*a*) What is the nervous system? (*b*) Give the most important work of each part of the nervous system.
8. Describe the eye and tell how it is protected.
9. Give reasons for bathing and keeping clean clothing next to the body.
10. What causes teeth to decay? How may decay be prevented?

A large share of the above questions have no value or interest whatever. Why should a 10-year-old child know the names of the juices of the intestines and stomach? What does he care about the oesophagus? What can he really understand about the nervous system? Why should he be able to tell the uses of saliva? "What juice is mixed with the food?" "Saliva." "How does it help us?" "It changes starch into sugar." "What does the stomach do to the food?" "It mixes the food with gastric juices." "Where do we get the bile?" "Where do we get the pancreatic juice?" Comment is scarcely necessary.

We are suggesting that a course in elementary science and nature study that will be very closely correlated with the other subjects of instruction be organized for the lower intermediate grades. We most earnestly recommend the introduction of such a course.

A detailed discussion of the teaching of science will be found in Chapter VII of this report.

INDUSTRIAL ARTS.

Important as reading, writing, and arithmetic are, the vast majority of children will not spend their hours directly using them after they leave school.

It is impossible to have a well-balanced educational system without introducing such phases of handwork as will enable the child to express himself through doing and thus make definite what is often vague and indefinite in his mind.

Industrial arts in the elementary school considers the problems of selection of materials and methods of construction more from the standpoint of the user than the producer.

The purpose of this course should be cultural, not utilitarian. It should provide such information, develop such habits and attitudes, and cultivate such appreciation as will make intelligent consumers and citizens.

The end sought is not skill alone, rather the development of the child through the exercise of his natural and spontaneous self-activity. The value of handwork, the industrial arts, in the grades, lies in the realization of the following aims:

To supplement and make more accurate the other subjects of the curriculum, through the construction of models to illustrate those subjects.

To bring school and home into closer harmony through the construction of articles of real value in the home.

To arouse the child's interest in school work through problems, enlisting both mind and hands; concrete, and of value from the child's point of view.

To bring the pupil into touch with the industries of the world, through the study of typical methods of manufacture and through the actual transformation of rough materials into finished products.

To instill a taste and respect for manual labors and an appreciation of good workmanship and honest construction.

To develop habits of accuracy, thoroughness, and skill.

Since this phase of school work is founded upon the development of self-activity, the work should begin with those exercises that are most easy from the child's point of view and proceed to those more difficult. During the first six grades the work may well be largely the same for both boys and girls and without reference to future vocations. The exercises should be grouped or graded according to the age and ability of children to handle certain materials.

Every model constructed by the child should have a vital connection with life. His home life, his school life or his life of sport. For example: Models useful to the child in his play. Suitable problems may be selected for each grade from those fields of industry which are of importance to all people, such as projects centering about food, shelter, clothing, utensils, tools, etc. Models can be made for permanent school exhibits. Apparatus for simple experiments in physics. Simple furniture for the schoolroom, such as bookstalls for the teacher's desk, frames for pictures, pedestals for plants, statuary, etc., hanging shelves for books, magazine racks, etc.

The equipment for this work in the first six grades need not be elaborate nor very expensive.

The committee feels that the Memphis school system should as soon as possible provide opportunities whereby hand or industrial work of various kinds, skillful cooperation of brain and muscle every day may be possible for the children throughout the elementary grades.

To realize the great importance, the value, and we might safely say the imperative need of the "Doing Side" in education, one needs simply to pass from grade to grade throughout the elementary school and note the idle, uninterested children. This is due, no doubt, to fatigue at the continual use of a pencil; the many overgrown children; the physically defective and some foreign born who are marking time largely waiting for "The Earliest Possible Moment" when they may leave school and go to work.

The more numerous the avenues open to a human being to create, to construct, to build, to make things, the greater the possibility of his rendering efficient service in life, and the less likely is he to be "a square peg in a round hole." (See Chapter IX of this report for a further discussion of this work.)

7. GENERAL ASPECTS OF INSTRUCTION AND MANAGEMENT.

THE VISION OF THE TEACHING STAFF.

Memphis possesses a golden opportunity for the making of an ideal school system through the personnel of its teaching staff. Courtesy, graciousness, and refinement are in evidence on every hand. One notes the wholesome and refining influence as reflected in the spirit and attitude of the pupils toward their school work.

An examination of the content of the work done and the methods of instruction pursued shows too frequently a lack of vision and educational outlook. Most of the teaching is done on the basis of words, rather than on the basis of reality. The schools move on from day to day in a groove. We were impressed with the fact that the teaching tends more toward "memory storing" than toward achieving power to act and react quickly in thought processes. The textbook is the end and not the means to an end. Lessons are assigned from day to day, as so many pages or the next chapter to be studied, to the end that the children return the next day having committed to memory the facts contained therein.

This type of school work indicates that the teacher has lost sight of the fact that teaching is not mere learning and lesson hearing; that knowledge as gained in memory training is not power; that teaching is weak, if not positively evil, which weakens the individual power of children by the processes used in communicating knowledge to them.

Instruction in school can best be judged by the activity of the pupils; hence the observer asks, What are these children doing? Are they setting up problems and projects of their own? Are they pointed and forecful in their work? Are they selecting facts according to values? Do they exercise any initiative in their study etc.?

The answer to each of these questions is negative. It is memory teaching only and often in the exact language of the text, at least the exception is so rare that it is almost a negligible quantity.

To instruct means to throw the child into the adjustment of a "problem situation," which is not the case in the following type of work. For example, a portion of a lesson assigned on the blackboard was—

Memphis is the trade center for western Tennessee and Kentucky, Mississippi, and eastern Arkansas.

The farmers of these States send their cotton, fruit, and vegetables to Memphis to sell.

Memphis merchants sell to the farmers groceries, plows, wagons, furniture, and clothing.

Memphis is a great market for cotton and lumber.

There are many large lumber mills at Memphis, etc.

The recitation which followed the assignment was of the memory type—

Teacher. Memphis is a trade center for what section?

Child. Memphis is a trade center for western Tennessee and Kentucky, Mississippi, and eastern Arkansas.

Teacher. Where do the farmers send their cotton, fruit, and vegetables?

Child. The farmers send their cotton, fruit, and vegetables to Memphis to sell.

Teacher. For what is Memphis a great market?

Child. Memphis is a great market for cotton and lumber.

Each question asked by the teacher was responded to by the children in "parrotlike fashion."

These important facts about Memphis should have been discovered and could have easily been discovered by the children through their own efforts. The teacher should have set a problem for them by directing them to find out "Why Memphis is a trade center and for what area of country." Also to find out "What the important productions are and how they they are distributed." Problems set for children utilize their instincts for investigating and collecting of data and material. The teacher's function is to aid the children in sifting and organizing the data collected, whereby the facts gained and knowledge required become vital and fixed. Children once subjected to the problem type of work will no longer be satisfied with having the teacher write on the blackboard statements to be copied, to be memorized at home and later recited verbatim.

This type of teaching means constant study and investigation on the part of the teacher; for, to be an efficient teacher, one must be a growing teacher. An element in the teaching staff, which is essential to an effective and efficient school system, is initiative and resourcefulness. We recognize that it is impossible to preserve and cultivate the initiative of the teaching force, when teachers feel they are to be measured by uniform tests and standards, the basis of which is shown in the child's ability to memorize and answer set questions in order to pass uniform textbook examinations.

It was the exceptional classroom observed that showed any evidence that the teacher alone, or the teacher and the children together, had made any effort to make the work concrete or relate it to the children's own experiences in the home, school, and community. As an illustration of this, in all the classes observed during centennial week only one was making any use of the centennial edition of the local newspaper—the Commercial Appeal. This was a golden opportunity lost to enrich and vitalize the geography and history. The edition of this paper might have been profitably used during the reading period. It was the situation which had created the information contained in this paper. So instruction in every subject should link up with life's situations in an interpretative way.

There seems to be little or no incentive given to the children to investigate and question, in order that they may grasp things in a meaningful and systematic way.

PREPARATION BY TEACHERS.

The tendency to neglect the preparation of topics that we have taught many times in the past is universal. The tendency to neglect preparation when there is textbook teaching is likewise very widespread. A course of study which is narrow and inflexible tends more than any other one cause to cutting down preparation for lessons which apparently are the same year after year.

Work in the elementary schools of Memphis is largely of the straight textbook type. Outside work is very seldom brought in as has been observed already in many places in the report. The teachers take the attitude that there is no time for anything more than they are now doing. Consequently there is very little incentive for careful preparation, preparation which goes beyond the text itself. It should not be assumed that none of the teachers prepare carefully for each day's work, seeking each day to add something to what has been prepared for the same lesson in former years. It was our feeling, however, that in the intermediate and upper grades, particularly, the teachers of grammar, arithmetic, spelling, geography, and history had made little or no preparation for the day's work beyond having well in mind the facts in the text. If there had been preparation, the facts discussed or recited in class did not indicate wide divergence from the text itself.

Are the teachers so hindered by the course of study that the motive for preparation is killed?

TYPES OF QUESTIONS USED IN INSTRUCTION.

In general, there are two broad types of questions, those which call forth facts accumulated in memory, and those which call for the exercise of thought in arriving at an answer. In school, questions are asked, for the most part, because it is supposed to be the thing to do. In life outside the school questions are asked because some problem needs answering. This latter situation should be the ideal sought for in classroom procedure.

In Memphis during the month of observation we saw practically nothing but a long list of questions being asked which were nothing but memory questions. Thought was not in the least involved in getting the answer. Very frequently there was no connection between the first question and the next. Memorized facts were desired and frequently very unimportant facts. There is a definite place for memory questions. There is also a place in school for thinking. The chief reason for lack of interest in school work is the failure by the teachers to introduce children to situations (questions) which require thinking. It is our judgment that the teachers of Memphis put an undue amount of emphasis upon memory rather than upon thought work.

The other side of the problem of questions is the response given by the child. We direct the reader's attention to the stenographic lessons and point out the nature of the answers given by the children.

The answers are brief, uninteresting, and inaccurate, frequently only a "yes" or "no." Such answers tend to mental laziness and inexactitude. Why do children give such brief unsatisfactory replies? First a great many of the questions are asked in such a way as to permit of a "yes" or "no," or one word for an answer.

It is more closely associated with history, is that it?
We find another range of mountains farther South, what are they?
Can you name a high peak there?
We haven't been so much concerned about Russia lately, have we?
We find it inclosing what little sea?
It is near what city?
It was not so much the value of things themselves, was it?
It was the historical value, wasn't it?

Another reason that children give brief answers is that the fund of information at the child's disposal is extremely meager. Still another reason is the child's tendency to follow the line of least resistance. The teacher accepts brief, incomplete answers, and the child falls into the habit more or less consciously of offering just enough to satisfy.

A study of the stenographic lesson will reveal a great many questions which are the answer desired put in question form, requiring nothing more than a reforming of the sentence. The following examples will clarify this point. Such questions are another cause of brief and unthinking answers.

Name the largest prairie city that ships the most meat and corn.
What would be especially inconvenient in building railroads?
What is it called where a river goes through?
I'sn't it warm or more like our Southern States?
Most of these countries grow grain to live on, don't they?
But it does belong to England?

A great many of the teachers' questions are very similar to language-completion tests or puzzles where words have to be guessed and filled into blanks. The following questions will indicate the type. (Never use more than one word.) The words "where," "what," "who," "how" are blanks.

Finally goes out where?
Has the largest what?
They are between what?
For making what?
They have some peaks that are familiar as what?
Most of the plains of Europe are where?
This point of land is what?

Repetition of answers by teachers is also a rather common fault of the Memphis teachers. This is a waste of time, if nothing worse.

We wish to urge a very careful consideration on the part of teachers of the whole matter of questions in the instruction. The question, however, can not be separated from the more important ones of course of study, organizations of lessons, and training of children to think and study.

HOME STUDY.

To watch the boys and girls pass out of a Memphis school at the close of the day, each one carrying a book and usually an armful of books, including an arithmetic, a reader, speller, geography, history, pencil box, etc., one wonders why and mentally asks such questions as these: "Have these children failed in their day's work?" "Have they no time for study in school?" "Are they expected to work at books from early morning until evening?" "Have they no time for play and home-work activities which will develop their health, heads, hearts, and hands?"

Finally, one asks: "Have they home conditions suitable for quiet study?" Upon investigation it is found that very many, possibly the majority of the children, have not.

Then what are the advantages or disadvantages of home study? In those homes where the environment is conducive to quiet work and where the parents have time and the interest to aid the children in their work, one readily sees that an advantage would obtain in that it enables the parents to judge of the mental ability of their children, also acquainting them with the development of the curriculum as carried on in the school.

To the thoughtful observer the disadvantages seem numerous. There is the temptation on the part of some to overstudy, there is the temptation to get too much help, the temptation to cheat, the formation of careless habits of study, the danger of memorizing merely words, the interference with outside cultural studies such as music, and art, the lessening of the play time and outdoor sports. Last, but by no means least, the physical burden of carrying heavy books to and from the home daily is a matter for parents to take into serious consideration.

The usual physical conditions under which a child studies at home, at high tables and with poor artificial light, warps his body and injures his eyesight. When the classroom work is properly organized, grouping the children in classes according to their ability to progress, there should be ample time for the preparation of the next day's work in school, for while one group studies or prepares an assigned task the other group recites.

The amount of home work should be reduced to the minimum, and should not be required at all before the fifth or sixth grade. It should consist, mainly, in investigation in the field, at the library or museum, of some project which is to be worked out in school the next day.

ECONOMY OF TIME.

There are two ways in which time may be saved in the schools. To the teachers of Memphis we recommend a most serious consideration on their part of this vital question. We heard on every hand, "We haven't time to do that." Can it be really true that the elementary school course is overcrowded? The children receive no instruction in nature study, no instruction in civics, no handwork or drawing, of any considerable amount, and in some grades none at all. Only a few schools have cooking and only a little time is given to sewing, and there is no manual training. Physical training receives only very slight attention. The subjects which are taught are limited for the most part to the adopted texts.

There are many school systems which secure better results in the subjects which are found in the Memphis schools, in addition to having all the activities mentioned in the last paragraph. Can it be possible then that the teachers in the grades in Memphis really have not time to teach other subjects or to offer richer content in the subjects which are now in the course?

Our answer is that, if present methods of organization and selection of subject matter and present methods of instruction are continued, the teachers really will not have time for any more than they are doing.

In the first place, time can be saved by the elimination of all subject matter which has no value for the development of the child and the furtherance of his needs. Many important topics are crowded out because there "is no time" since much traditional material is retained for no other reason than it was in the course of study heretofore. Much of place geography, the third type of percentage problems in many applications, difficult fractions, much of the denominate number work, a great deal of the problem material in mensuration, a large part of the spelling lists, and formal grammar could be dropped from the Memphis course with no loss to the pupil and with a great gain in time. Many other items might be mentioned.

A still greater loss of time is brought about by obsolete, ineffective, wasteful teaching methods. If a teacher presents a topic to a class ineffectively the entire time of the class is wasted regardless of how hard the class and teacher may have worked. If children study a spelling lesson in the wrong way, time is lost. If short methods are not employed in mathematics, time is lost. If interest and attention are not secured by the methods employed, time is lost. We have already pointed out, both in spelling and arithmetic, the enormous waste of time in teaching methods.

Another cause for loss of time is a badly correlated course of study. Unless one subject supports and clarifies another, valuable time and effort go for naught. (We commend to the teachers of Memphis Russell's Economy of Time in Education.)

All of the above causes for waste of time are present in the Memphis elementary schools to an alarming degree.

EXAMINATIONS.

The examination system in Memphis is worthy of attention. Examinations in all major subjects—arithmetic, language and grammar, history, physiology, and spelling—are given each half year in all grades, two to eight, inclusive. In the second and third grades examinations are given, of course, for those subjects only which occur in those grades. The reading examination is an oral one. Composition is considered a minor and does not come during examination week. One week is given over to examinations each half year. One examination is given daily—varying in length, but in the upper grades sometimes three hours are allowed.

The month preceding each examination week is devoted to a review of the term's work—literally a cramming for the final week. This review is in general of two kinds: A review of the textbook material, or a review based upon examination questions of previous years. The teachers have sets of old examination questions, and they give them out from day to day. The questions this year were made out by the superintendent, to whom the questions had been recommended by a committee of principals.

Every teacher says upon inquiry that there is no time for this or time for that, because her children must be ready for examination. The ability to master the text and the ability to answer the examination questions seems to be the desired goal. The principals as a whole believe in the examination system. "It gives the teacher a definite aim to shoot at." "It keeps teachers from passing along children who ought to be failed." "It makes children study." "Children will not work if they know they have no final examinations." These are some of the replies one gets from principals and teachers when one inquires into the advantages of the examination system.

It is our opinion that the examination system now in use in Memphis is one of the great hindrances to really effective instruction. Our objection is not to examinations as a general idea. Good examinations are of great value. Examinations which force children to cram up on disconnected and unrelated facts, facts of little use now or in the future, are a positive detriment. During the last month of school the surveyors in the elementary grades saw not more than a dozen lessons in which new material, new facts, new data were presented. We did not hear 50 questions in the month's time that called for real exercise of thought.

If there must be an examination, why not have the review preceding it based upon some organized plan? The review cited in the stenographic lessons is typical of the major portion of the month's work. To really review a subject, connections between related ideas ought to be stressed. Do these lessons show any coherence? Would a child organize his ideas on European geography by such a review? If there must be an examination, why could it not be prepared without the entire devotion of one month's time to it? Could not new topics be used to review the important principles or facts? After a careful study of these questions, what ones could not have been answered just as well by a continuation of regular work as to stop all advance work and drill on such facts for four weeks?

We wish to ask these questions in conclusion: Is an examination the best means for getting children to work in school? Does the teacher really need an examination to decide who shall be promoted? Do the present examinations keep the teacher from doing a more interesting and vital type of work? Is cramming really the best method of preparing for an examination? In Chapter II of this report a plan of promotion which eliminates the formal examination is suggested and discussed.

SUPERVISION OF INSTRUCTION.

There is no general supervision of instruction in the elementary grades except that exercised by the superintendent. The principals of the schools supervise their teachers to a greater or less degree, depending somewhat upon the amount of office work that the principals have to attend to. Intensive supervision is received by very few teachers. The great number of new teachers each year should demand a large amount of time and thought upon the part of the principal.

We should like to make the following general suggestions regarding the work of the principal as a supervisor, since practically every principal asked that suggestions be offered as to how he could be of greater help to his teachers.

It would be well for a principal, by the use of well-known educational tests, to determine as accurately as possible the exact status of the results in his school with reference to the most important subjects. This should be done regularly at the first, the middle, and the last of each year. Having done this, he should next, by thorough visitation, determine the reasons for any unsatisfactory results. Then, by consultations, teachers' meetings, and study, the staff should determine means for correcting the deficiencies. It would be well in some cases for the principal to take classes for the teacher if it were necessary to make his meaning clear or to show the teacher what in his judgment ought to be done. Teachers' meetings which take up problems of instruction to determine the best possible methods of teaching, with demonstration lessons as the basis of discussion, are exceedingly inspiring to the teachers of a school. It is also wise for a staff to call in outsiders of recognized ability to work on special problems.

Supervision is not at all a one-sided affair. The teacher must do her share of the supervision by being open to criticism, by preparing her lessons every day with the idea of doing the work better than ever before. The entire teaching staff ought to outline the topics for the year's work in advance, so as to be able to modify and enrich the subject of each topic in the light of experience and criticism.

In addition to the supervision which the principals do or might give, it is very necessary that there be general supervision of the regular work for the elementary schools to coordinate and direct the work from the point of view of the whole system. The schools now show great need of this sort of supervision. It ought not to be necessary to give reasons here as to the value of good supervision.

In addition to supervisors of the common subjects, there ought to be supervisors of the special subjects which are so technical as to demand a specialist. We are not referring to a supervisor whose chief business is to rate teachers, but a supervisor who knows how to teach, knows how to improve instruction, and who will initiate all sorts of projects that will challenge the best the teachers have in them. She should lead, not drive. This subject is discussed also in Chapter II of this report.

THE TIME SCHEDULE.

Waste in the proper utilization of a child's time in school is inexcusable. No part of school work requires more careful planning than the daily program. This fact should be impressed upon the teachers of all grades with great emphasis. It is an easy matter to think of the program as a mere mechanical contrivance, with no thought back of it other than to get the subjects out of the way, one after another, without reference to the ends to be gained. It is important to impress upon the teachers of all grades that while a program should be flexible, designed to suit the needs of growing children and modified to suit those needs, there must in the main be a definite time schedule followed.

Every child should be actively occupied every moment of school-time at something which is interesting to him and which is truly worth while. This is not true of the children in the Memphis schools at the present time. The sum total of time wasted during a school year would, we are confident, amount to hours during a school year—due to lack of proper arrangement and balance of studies, to mass teaching, lack of interest in work assigned, and to the fact that many teachers check and mark papers during the time allotted for recitation.

The program of school exercises, the time schedule, should be evaluated from several angles, considering first, the relative importance of the several subjects therein to determine which are of the greatest value in the life of the child. When this is done, spelling and reading will not occupy the same period as they now do, with the major amount of time being given to spelling. Second, the amount of time per week and day which should be given to each subject according to its importance should be determined and, third, the physical and mental conditions under which the child works should be noted.

THE DAILY PROGRAM.

For an elementary school system which has practically no manual activities, such as drawing, manual training, cooking, sewing, gardening, and the like, the daily program is too long. Nor is it wise in general to give the same amount of time to every subject as is the case in the upper grades. In some schools spelling receives as much time per day as geography or history. The question of how much time each subject ought to receive is one to which the administration should give its immediate attention. (See section on time schedule.)

It should be the aim of those intrusted with the direct instruction of the children to see and feel that every exercise of the school should offer occasion for the child to put forth effort—effort that will result in acquired knowledge and skill. Also that there is no time for lawlessness and inattention. The program should be so arranged as to afford variety for the children calling different energies into action at different periods. Drawing should not follow writing; music and physical training should alternate with written work; reading, arithmetic, geography, etc., with music and manual work. A scientifically constructed program saves the time of the teacher and that of the child through the effective work accomplished.

We offer the following schedule, now in force in Rochester, N. Y., as a suggestion for Memphis, to be modified, of course, to meet different conditions.

Time schedule (Rochester, N. Y.).

Grades.	I[1]				II		III		IV		V		VI		VII		VIII	
	A. M.	Week.	P. M.	Week.	Day.	Week.	Day.	Week.	Day.	Week.	Day.	Week.	Day.	Week.	Day.	Week.	Day.	Week.
OPENING EXERCISES.																		
1. Registration																		
2. Inspection	10	50	10	50	15	75	15	75	15	75	15	75	15	75	15	75	[2]20	100
3. Health Club																		
Reading	75	375	50	250	120	600	100	500	40	200	30	150	30	150	(3)	.....	(3)	.....
Language	20	100	15	75	25	125	25	125	30	150	30	150	30	150	50	150	50	150
Literature	45	45	45	45	15	75	15	75	15	75	15	75	15	75	50	100	30	120
Grammar	...	....	...	....	....	.....	....	.....	...	.....	...	.....	...	.....	50	100	50	100
Arithmetic	...	....	...	....	45	225	45	225	50	250	50	250	50	250	50	250	50	250
Writing	10	50	10	50	15	75	15	75	15	75	15	75	15	75	15	75	15	75
Spelling	...	....	...	....	15	75	15	75	15	75	15	75	15	75	15	75	15	75
Geography	...	....	...	....	....	.....	15	45	40	200	45	225	45	225	50	100	...	.....
History and civics	...	....	...	....	....	.....	....	.....	10	50	10	50	10	50	50	250	50	250
Music	10	50	10	50	20	100	20	100	20	100	20	100	20	100	25	75	25	75
Drawing	30	60	30	60	30	90	30	90	30	90	30	90	30	90	30	90	50	100
Manual training																		
Domestic art	30	30	30	30	30	30	30	50	50	50	75	75	75	75	75	75	120	120
Domestic science																		
Physiology and hygiene	15	15	15	15	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Physical training	10	50	10	50	20	100	....	160	...	160	...	160	...	160	...	160	...	160
Individual help	...	....	...	....	....	55	....	50	...	75	...	75	...	75	...	50	...	50
Nature study[4]	...	....	...	....	....	.....	....	.....	...	.....	...	.....	...	.....	...	.....	...	.....
Total	...	825	...	675	....	1,650	....	1,650	...	1,650	...	1,650	...	1,650	...	1,650	...	1,650

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[1] The time schedule provides for half-day sessions in the first grade, three groups in the morning and two groups in the afternoon.

[2] Extra time is provided for student activities.

[3] The Reading in the seventh and eighth grades is taught in connection with other subjects.

[4] No time is assigned as Nature Study is taught in connection with Language and Geography.

Morning session 8.45 to 11.45.

Afternoon session 1.15 to 3.45.

The kindergarten and first grade will close work in the morning at 11.30 and in the afternoon at 3.30.

SPECIAL CLASSES.

Some of the schools in Memphis have special classes for children who are making up lost grades or who are trying to skip a grade, or who are to do the work of a whole year in a half year. For example, one teacher will have an eighth-grade special, in which some of the children are failures and some are accelerates. They are taught together in the same classes in the most of the subjects. These classes are organized to take care of individual differences. They are a step in the right direction, but they should be much more numerous and better organized. The promotion system ought to be so arranged that the able children could really take advantage of and use their native ability. By means of intelligence tests and actual school results laggards also could be segregated or given less work to do.

Except for slight administrative difficulties it might be well to outline maximum and minimum courses for each grade and equalize the differences in the class by giving each group, selected on the basis of ability, work corresponding to its power of accomplishment. The department of psychology or bureau of educational measurements which has been recommended ought to make a study of this problem.

SCHOOL EXCURSIONS.

A drive over Memphis boulevards and the famous Speedway, through the beautiful parks, including a visit to the zoo, impressed us with the wonderful advantages for acquainting the children with the kinds of trees, the variety of flora, and the songs of the native birds and their haunts through school-excursion work.

The zoo is a concrete gold mine of opportunities to acquaint the children with the animal life of foreign lands, and every geography class in the city of Memphis should be given an opportunity for the study of its wonders. One is fairly fascinated with the curious life of animals, birds, and reptiles as depicted there.

In a round of school visitations we came in touch with one class that had visited the zoo the day before. While the faces brightened when interest was shown because they had had this experience, it was evident that the real and educational value of a school excursion had been lost somehow. In attempting to discuss the excursion with them they seemed to have gained little definite knowledge. Here, as on many other occasions, when children were asked questions concerning their work, they responded by asking, "What does she want me to say?" When the ice was fairly broken, their delight in having found an opportunity to just talk gave evidence that they had much to tell. Had the work been definitely planned and arranged for before going they would undoubtedly have had very much more to tell.

SCHOOL EQUIPMENT.

The man who is successful in business has a well-equipped office, store, or factory. The thrifty and successful farmer has the necessary tools and machinery to aid in the production of good crops and their conservation. The well-ordered house is supplied with those essential materials necessary for human needs and comfort. Memphis at every angle shows prosperity in its trade and industry, due to its having constantly sought for the best equipment. The schools, the workshops, filled with the choicest of God's products—the little children—are woefully barren of equipment. Those tools which are essential to a full comprehension and appreciation of the content of the subject matter as laid down to be taught are lacking. Teachers and children alike have a right to demand a certain equipment. The schools are in need of maps, globes, and supplementary textbooks. both for the teacher's desk use and for the use of the children. Especially is this true in geography and history. Every school should have a good lantern with an abundance of well-chosen slides suited to the work of different grades. Some one room in each building should be supplied with dark curtains, where there is no general assembly room, to be used on occasions by different classes. With a small expenditure of money for mounting board cut to a uniform size and a cabinet in which to file them, pictures can be collected and mounted for use in making all the school subjects more concrete. The stereoscope and stereograph are also needful and helpful parts of school equipment.

Another important phase of equipment is a cork bulletin board in every classroom, upon which can be displayed materials collected, so that they may be observed, studied, and talked about by all the children. Each school should be supplied with the various sets of weights and measures. For example, the foot rule, yardstick, tapeline, weights, liquid and dry measures, so that when these subjects are presented in the arithmetic period the children may have the experience of actually measuring and thereby evolve for themselves, through doing, that "two pints equal one quart," "eight quarts one peck," and "four pecks one bushel." Every school should be provided with an aquarium for fish and a terrarium for animals and insects, in order that nature specimens may be studied first hand. An equipment and environment conducive for every child to give the fullest expression to his self-activity and created instincts is an absolute necessity.

Many teachers in both elementary and secondary schools complain bitterly of the lack of supplementary books and illustrative material. They have nothing aside from the books and equipment prescribed in the course of study. There is, however, a wealth of material to be had free of cost such as will enrich the work in history, in geography, in natural science, and the like. It is worth while to give an example.

The International Harvester Co., of Chicago, issues a neat booklet entitled "The Story of Bread." The story is interesting and instructive, and will hold the attention of young and old, as the narrative traces the history of the development of the breadstuffs industry. The social and economic significance of bread and the inventions and machines that have made cereal raising the chief occupation are set forth. The pen sketches are helpful. This suggests the possibilities for teachers in other lines. Practically every transportation company in the country publishes maps of the United States or of local regions. These can be had free, as can the pamphlet above mentioned. In some instances a few cents' postage is required. The folders and special circulars issued by all railway and steamship companies contain excellent pictures of scenery. These pictures, when cut out and pasted upon cheap manila cards, and classified, can be used in the class to illustrate all phases of geography teaching.

Manufacturers, tradesmen, publishers, development boards, and, in one's own State particularly, the various boards of trade and chambers of commerce issue printed matter, pictures, maps, etc. These can be had for the asking. Hardware, lumber, and paint concerns; firms dealing in decorative materials, fabrics and the like, frequently have exhibits which trace the process of manufacture from the raw material through the various stages to the finished product. In this industrial age such material is of great value in the hands of a wise teacher. A tool catalogue with its many illustrations or a card holding the various bits of steel and showing the pen in the successive processes of manufacture—these may open up a new world to the boy or girl. The public is always ready to cooperate with the school.

Members of the Memphis Rotary Club and of other local civic bodies, representing various manufacturing interests, would, no doubt, be glad of an opportunity to cooperate with the teachers in providing cabinets or cases, showing the process of manufacturing which they represent. Every school should be on the mailing list for Government maps, charts, and bulletins of the agricultural and geological survey departments.

DISCIPLINE.

One of the most pleasing aspects of the school situation in Memphis is the uniformly splendid discipline throughout the school system. The relationship of pupils and teachers is most cordial and lays an excellent foundation for good work. All the members of the staff noted the friendly interest manifested by the teachers in their children and the respectful reaction to this interest by the children.

Some of the schools still use corporal punishment rather freely, but on the whole the practice is entirely out of fashion. The only feature of the discipline which seemed at all bad was the rather too frequent practice of sending children to the principal for minor offenses or annoyances. Some other method ought to be devised for handling this situation, since the present method only weakens the teacher's control over the individuals concerned.

8. A SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS.

1. The course of study does not meet the demands of modern education in the best sense of the word.

2. Many important activities are omitted from the course, namely, nature study, elementary science, manual arts, including cooking, sewing, drawing, manual training; the proper sort of physical training and school gardening. The child's environment as a basis of a course of study is totally ignored.

3. Many of the subjects now included in the curriculum are not in touch with modern needs and require reorganization, eliminating useless material and substituting that which is vital in the life of the child.

4. The course of study has no underlying principles or aims which control its plan. It is now merely a mass of unrelated, traditional pieces of knowledge thrown together regardless of the controlling aims of the educative process. There is no distinction between essential and nonessential elements in the course.

5. The methods of instruction are antiquated. The typical methods are memorization and " question and answer " recitations.

6. The present methods of instruction are wasteful of time and energy to say nothing of the great distaste they arouse in the child's mind for learning.

7. The arithmetic is poorly taught and poor results are obtained.

8. The music is devoted too much to study of musical notation and not enough to good singing.

9. The schools are poorly equipped for good teaching, lacking libraries, laboratories, maps, charts, globes, manufacturers' exhibits, weights, measures, auditoriums, lantern slides, pictures, and the like.

10. The schools show need of helpful, constructive supervision.

11. The teachers need more academic and professional training before appointment and after appointment.

12. Many of the teachers are not qualified for the positions they are now holding.

13. The " aid system " is bad, hard alike on the teachers and aids.

14. Many of the principals are out of touch with modern elementary school practice.

15. The principals in all cases are not good school administrators.

16. There are inadequate facilities for play and recreation.

17. No provision is made for first-hand knowledge such as would be provided for by laboratories, gardens, excursions, etc.

18. The teachers are dissatisfied with salaries and with the general policy of the school system.

19. Teachers waste time in school by making out reports.

20. There is too much home study.

21. Teachers do not always cooperate with their principals.

22. The geography instruction is lifeless on account of a poor course of study and lack of equipment.

23. The grammar phase of the English work is overemphasized and is not approached inductively.

24. The reading is narrow in its scope and the children are backward in comprehension of material read.

25. The spelling is good but at too great a cost of time and work.

26. The history is not closely enough tied up with present-day problems.

27. The material of the course of study should be based upon the social, intellectual, and physical environment.

28. The future course ought to include those activities that we have indicated as being omitted.

29. The course should be flexible enough to admit new material, as it proves its value for the child's growth.

30. Methods of instruction and courses of study should be so modified as to permit the use of projects and larger units of activity, thus affording wider employment of the child's own interest and activities, placing thereby the emphasis upon learning and growing through doing rather than through memorization.

31. Methods of teaching should be founded upon the instincts and nature of children.

32. All the teaching should employ the fundamental principles of self-activity of the children, concreteness, correlation, and apperception.

33. Teachers must learn teamwork.

34. Teachers should plan their work more carefully.

35. No teacher should have more than 35 children.

36. The principals should be trained for supervision and methods of instruction in order that they may offer teachers real supervision, by demonstration if necesary; and also that each principal be required to teach a few hours regularly each week.

37. Teachers should be encouraged to use their initiative and creativeness.

38. Teachers' meetings should be held at regular intervals, with a definite program of work laid down for such meetings.

39. Excursions for instructional purposes ought to be organized for every teacher three or four times yearly.

40. The teacher's day need not be longer than eight hours, including preparation.

41. Children should be promoted according to their ability to progress.

42. A bureau of educational research should be established to assist in the supervision and testing of instruction.

43. Kindergartens ought to be established.

44. The junior high schools ought to be established as soon as possible.

45. Physical training and health training ought to be thoroughly reorganized.

46. The manual arts, fine and industrial, ought to be developed to a much higher degree.

47. An elementary science or nature study course of study ought to be organized for each of the elementary grades.

48. School museums are a necessity.

CHAPTER II. THE HIGH SCHOOLS.

CONTENTS.—I. Introduction—Pupil groups that leave school; failure and elimination. II. The high school curriculums—Theory of the curriculum; new curriculums recommended; the Latin and modern language sequence; the mathematics sequence; the English sequence; the sequence of social studies; the natural science sequence; the sequence of applied arts. III. High-school teachers—Difficulty of measuring worth, standard of qualifications; types of faulty technique. IV. High-school administration—Principles of internal government; organization of pupils; size of classes; organization of executive and teaching staffs; the library and librarian; male teachers needed; supervised study and the socialized recitation; student self-government; the building and equipment. V. Summary of conclusions and recommendations.

I. INTRODUCTION.

The people of Memphis, through their board of education, maintain and operate three high schools: The Central High School, the Vocational High School, and the Kortrecht High School for the colored children. These schools through their organized activities embody what is being done, consciously or unconsciously, by the citizens of Memphis to accomplish two very definite civic and social purposes.

The first of these purposes is to meet the needs, the legal requirements, and the educational policies of the State of Tennessee, so far as these apply to the city school districts, and to pupils who have won promotion into the high schools from the elementary grades. These legal requirements are expressed in the State statutes, and are interpreted and administered for the most part through the State department of public instruction, whose function it is to see that the school laws are lived up to and the department's administrative policies carried out.

Every child in the State is a part of the State and an actual or potential citizen, and no matter where he may dwell within its boundaries his proper maintenance, growth, and training are of direct and deep concern to the safety, welfare, and prosperity of the State. Hence the larger good of the State and the Nation should have an important place in the thought of the community concerning the education of its children.

The second of the two purposes above mentioned touches more nearly the intimate community life and growth of Memphis itself. This is to develop and train those children who in a very few years are to become the leaders of Memphis. The great bulk of the people in every city who to-day are making it what it is—who are shaping its municipal policies, developing its commerce and its industries and directing its team play for social and civic enterprises, such as public-health protection, music, art, architecture, city planning and beautification, parks, playgrounds, Y. M. C. A., Y. W. C. A., churches, and charitable institutions—are graduates or ex-students of its public high schools.

Hence a progressive school system, with good modern high schools, based on thorough elementary schools, makes a progressive city. This must be true of Memphis no less than of other cities. The pupils now in its high schools will determine its development 15 and 20 years hence. If its high schools fulfill their complete measure of responsibility, that development will be marvelous. If either because of inadequate internal administration or because of improper or incompetent or unwise external control they fail to function effectively, Memphis will retrograde. This is a matter in which every citizen of Memphis is vitally concerned and should be deeply and actively interested.

PUPIL GROUPS THAT LEAVE SCHOOL.

The high schools of the city, in conjunction with the elementary schools, constitute a selective agency which picks out from the children between the ages of about 13 and 20 a limited body, small in proportion to the whole number, and gives them courses in training of from a half year to four years' duration, according to the length of time they continue in attendance. Many of them drop out by the way, and thereby cease their training so far as the high schools are concerned in it. Any further training that these children may possibly obtain is obtained in their employment or by other agencies, such as business colleges, Y. M. C. A., Y. W. C. A. classes, correspondence schools, or private reading and study. Undoubtedly a part of those who drop out do so because they are unable or unwilling to profit by the kinds of training that the high schools are giving them.

Some of these must be lacking in the capacity to profit by further school training of any sort; but it may be that a considerable number of them could profit by further training and can not now get in the high schools the particular kinds of training that they want and could profit by. If the elementary schools and the high schools acting in conjunction with them are functioning properly as selective agencies, the former class should be discovered and eliminated after completing the eighth or at most the ninth grade and they should not be turned out on the streets, but should be trained for or directed into the jobs where they can do the best for themselves and the community. This class raises the question of vocational guidance, which is discussed in detail in Chapter IX. On the other hand, if there are many of the second class—those who could not profit by further training if among the courses provided there were such as would meet their needs—then the high schools are failing as selective agencies because they do not hold these children, and are failing as training agencies because they do not provide the training that this class of youth could use.

This class raises the question of better curriculum organization, which is discussed in this chapter. There is also a third class of pupils who leave school, not because of either of the two conditions just mentioned, but because economic pressure compels them to go to work to assist in the support of themselves and the family. Undoubtedly many of these could profit by further training to the benefit of both themselves and the community, and for such as these especially many communities are providing night schools, part time or coöperative vacational courses, and continuation schools.

CONNECTION BETWEEN FAILURE AND ELIMINATION.

There is a direct connection between failures and elimination. Absences constitute the most potent cause for failures, and failures constitute the most potent cause for leaving school. Again both absences and failures are largely caused by lack of interest in the work. In spite of sickness and other causes of necessary absence, those who like the work and are successful with it when they attend manage for the most part to make up the losses due to their absence and meet the requirements for promotion. Hence failures and elimination occur most among those who are not interested in their work or who find it too hard. Tables showing the percentage failing in the Central High School are given in Chapter II.

A large percentage of failures in a given subject may mean one or all of several things:

1. The pupils are too immature or not well prepared before entering class.
2. The work does not make vital appeal to them because they can see no connection between it and their aims and interests.
3. The teacher's requirements are too rigid and his marks are too low.

The remedy for the first condition is more care in making promotions to the high schools from the elementary grades. Not many pupils are passed into the high school who are mentally too immature; but it is probable that many are passed on from the eighth grade who are not thoroughly grounded in the elementary work and who have not learned how to study there.

The only remedy for this condition consists in better teaching and more attention to holding every pupil to a strict accountability for thorough study and the faithful performance of tasks in the elementary schools. If the elementary teachers are competent and not overburdened with too many pupils, if the classes are properly graded, if the supervisor is adequate, and if an efficient system of testing the pupils is in use, there is no reason why every healthy and mentally normal pupil should not be promoted to the high school at the age of 14 or 15 years. If these normal pupils are guided into the kinds of high-school work to which they are adapted by their interests and natural aptitudes, very few of them should fail there. Pupils who are physically or mentally defective should not enter the high schools, but should be discovered earlier and set apart for training in special classes for the kinds of work they can do.

The remedy for the second cause of failures consists, first, in better educational guidance for the pupils, in order that they may select courses adapted to their interests, capacities, and needs, and, secondly, in better methods of choosing, organizing, and teaching the subject matter in the various high-school studies.

The remedy for the third cause of failures is obvious. The teachers who are too exacting should be made to use less severity, more inspiring methods, and better judgment.

Based upon studies made in the Central High School, the details of which it is unnecessary to set forth, the following conclusions are drawn:

1. A large proportion of the pupils are undecided as to their future occupations. They have no present definite intentions as to what sort of the world's work they are best fitted for and really want to do.

2. Therefore, the high schools can best serve these by giving them knowledge and experience in rather a wide range of the various fields of thought and activity, allowing them to choose as their major work such sequences of studies as lie nearest the interests that they already have manifested.

3. The high schools should require of all the pupils certain studies and activities such as history and civics, written and oral English composition, English literature, experimental science, advanced geography, and physical training, that are absolute essentials in the training of intelligent citizens. These should appear as required lines of work, up to certain minimum amounts in all high-school curriculums. They are therefore termed constants, because pupils must pursue them.

4. In order to prevent dissipation of effort and to hold each pupil to continuous and persistent endeavor in some chosen lines of work, there should be sequences of courses in a variety of different lines each involving three or four consecutive years of work. These are therefore termed major sequences, or major groups.

5. In order at the same time to secure the principles set forth in 3 and 4 above as to constants and major sequences, and to afford opportunities for groups of pupils having different talents and capacities to get acquaintance with a wide enough variety of the various lines of training, each pupil should be required to pursue major sequences of three or four consecutive years of work in two different lines, and minor sequences of two consecutive years of work in two other lines.

These requirements insure both breadth and depth of training and allow for some choice of elective studies in making up the number of units required for graduation. In every case the constants will be included within the major sequences, the minor sequences, or the electives.

II. THE HIGH SCHOOL CURRICULUMS.

DEFINITIONS OF TERMS.

Discussion of school studies involves the use of certain time-saving terms which, in order to insure clearness to the reader are here defined. *A course of study* means an arrangement of the facts, laws and principles of a single subject placed for study and training in the order and relations according to which they are to be presented to the group of pupils who are to learn them. The course of study may be arranged to be completed in a school year or half year with required attendance in the class on five days per week, or fewer.

A unit course of study, or more briefly, a unit is a course of study in which the student attends five class periods a week, each of not less than 40 minutes duration (exclusive of time taken in going from one class room to another), for one school year of not less than 36 weeks. Defined in terms of the time required in class attendance the unit course of study consists in the pursuit of one subject for a total net time in the class room of 7,200 minutes, or 120 clock hours. For work in shops and laboratories for which no time is required for study outside the classroom a double laboratory or shop period is counted as a single-class period. Graduation credits or college entrance credits of fractional parts of a unit may be gained in classes running five days per week for a half year, or four or three or two or one day per week for a whole year. Standard colleges do not give credit in any subject of study for course of less than half a unit.

The program of studies is a complete list of all the courses of study offered in a school. These courses of study may be grouped into major or minor sequences.

A major sequence consists of three or four consecutive unit courses in a single subject or in closely related subjects.

A minor sequence consists of two consecutive units in a single subject or in two closely related subjects.

The constants consist of certain studies or sequences of studies which are deemed necessary to the education of all pupils and which therefore appear in all curriculums as studies required for graduation.

A curriculum is a systematic arrangement of major and minor sequences and single courses of study, requiring three or usually four years for its completion and fulfilling the requirements for the diploma or certificate of graduation from the school. In schools organized on the 8–4 plan, as those of Memphis are, the elementary curriculum is normally completed in eight years and each of the high-school curriculums in four years. In schools organized on the 6–3–3 or junior-senior high-school plan the elementary curriculum normally required six years, the junior high-school curriculum three years, and the senior high-school curriculums three years, respectively, for their completion. Small schools ordinarily can offer only one or two curriculums, but large schools have the great advantage of being able to offer many, each of which is planned to meet the needs of some important group of students.

The timetable of schedule of classes is a chart which shows the sections into which the classes of pupils are divided for recitations, together with the times when they meet, the rooms where they meet, and the teachers who instruct them.

THEORY OF THE CURRICULUM.

According to the theory commonly held by educators and by people generally until quite recently the curriculum consisted only of subject matter to be learned largely if not entirely from books. Modern educational doctrine, however, has a much wider scope and gives to the word curriculum a much more comprehensive meaning. Education is now regarded as a process of conscious evolution in which the human race takes itself in hand and raises its own level of intelligence and welfare by passing on to the rising generation the essential and worthy achievements of the past and present.

The school program of studies, then, represents the selections from the accumulated knowledge, skill, and achievements now possessed by the race which its adult members intend to bequeath to their children as a social heritage, to be held and improved and passed on in like manner to future generations.

Each study has its science and its art, its theory and its practice, or its subject matter and its method. That is, in each kind or branch of knowledge or skill that is to be learned there are two things, so to speak, the materials and rules of the game and the method of playing it successfully. According to the modern view, then, we must teach the method as well as the subject matter and teach them together; the pupils must learn not merely by memorizing but by doing as well. He must learn the game by intelligently self-directed practice under the guidance of the teacher. Furthermore, since children differ in their natural endowments, inclinations, and aptitudes, they will not all do the same things in life, so all the things in the program of studies will not be taught to each one. The pupils will fall naturally into certain groups, and the aims of those in one group will differ considerably from the aims of those in another group, while within each group the aims of its members will be somewhat alike. Hence for each group it is desirable to select from the program of studies those studies which will meet the needs of that group and form these studies into a curriculum. There will thus be several curriculums, one for each important group of pupils, but each curriculum should contain the studies and activities which it is important to society that all children should learn.

However, according to the modern view there are more things in the curriculum than mere knowledges and skills. There are certain highly important habits of conduct that must be formed. There are ideals and standards of thought and taste and of individual and civic character which constitute the most cherished achievements of the ages, and these must be inculcated and become a part of each individual's make-up, so far as this can be accomplished. So also the world needs thinkers, and every individual needs to learn how to think; consequently every subject taught should give the pupil some practice in thinking and some concepts as to the best methods of thinking out problems and carrying out projects. Again, everyone should learn about and enjoy some of the finer things of life, such as literature, music, drawing, painting, sculpture, architecture, interior decoration, landscape gardening, and the charm of the out of doors. Some of these experiences he must have in order that he may acquire tastes and appreciations for the things that refine and that provide for recreation and the harmless enjoyment of leisure hours. We Americans especially need to learn how to play out of doors. We need to form habits of employing our leisure healthfully and profitably. There will be great social danger in the shortened hours of labor that are surely coming unless we train our youth in beneficial and refining habits of employing their leisure hours.

Finally we must have leadership, individual initiative, and devotion to the common good—the will to serve. All these are part and parcel of the curriculum in its modern conception, and in every subject that is taught the teacher should have them in mind. The following diagram shows how these elements of the modern curriculum are related to one another, and shows them in such form that they may easily be kept in mind for the studies and discussions of the curricula of the Memphis high schools which follow.

THE CURRICULUM.

Information-------
Useful Habits and Skills.
Practice in Thinking and Concepts of Method.
Physical Training and Organized Play.
Tastes and Appreciations.
Initiative.
The Will to Serve.
------------Ideals

The above diagram shows that all these important elements of the modern curriculum are related both to information and to ideals. For example, the efficient formation of a fundamentally useful habit, such as neatness and system in the preparation of school papers and notebooks must be based on information from the teacher as to the right ways of arrangement and execution. Then, knowing the right way, the pupil fixes the habit by attentive and purposeful repetitions of the act. He must make the various moves in the right ways and in the approved order on every occasion that calls for the act and must not permit any lapses until the act has become automatic and requires no further thought or attention. Furthermore, he will not do this unless he gets satisfaction out of the result. Having formed some habits of neatness and system through the use of the necessary information, and having gained further information through experience and observation of the convenience and satisfactory appearance of the product, the student gradually develops appreciation of neat and well-arranged papers and of efficient methods of preparing them. With appreciation of neat product and efficient methods comes a taste for turning out that kind of product. Also, under skillful and earnest guidance and inspiration from the teacher, who points out the beauties and advantages of neat and orderly products in other fields of work, an ideal of turning out neat and tasteful products in all his other lines of endeavor begins to take hold of the student and control his aims and efforts. Ideals constitute the motive power that drives human beings toward accomplishment. Boys and girls, men and women, do in spite of obstacles what they think and strongly feel is most worth while. They try to make conditions fit their ideals of what the conditions ought to be. Furthermore, when they meet difficulties they have to think their way out; and this requires both thinking ability and initiative. So from this concrete example it becomes clear that habit formation and the acquisition of skill are closely related to acquiring information, developing tastes and appreciations, forming ideals, and thinking out problems.

In like manner every one of these elements of the modern curriculum is related by means of information and ideals to every other. Therefore in teaching any subject or in guiding any of the pupils' activities, the teachers should recognize this relation and use such methods of instruction as will combine these elements within the experiences of the pupils. Thus, and thus only, shall they gain both the ability and the will to serve society, as well as to enjoy the breadth and depth of rich individual life.

Is the principle of constants observed, so that each pupil shall secure the minimum training that is essential to all?

THE CENTRAL HIGH SCHOOL CURRICULA (1917).

ELECTIVE (Select four subjects)	LATIN	HISTORY	SCIENTIFIC	MODERN LANGUAGES	COMMERCIAL	TECHNICAL	HOME ECONOMICS
English Music Gymnastics } 5 Arithmetic Algebra Ancient History A Modern Language Latin Military Vocational Guidance General Science Typewriting Business English Commercial Arithmetic Shop Work Home Economics Art Chorus	Take: English Latin Algebra Arithmetic Music } 5 Gymnastics Elect one: General Science Ancient History	Take: English Ancient History Algebra Arithmetic Music } 5 Gymnastics Elect one: General Science A Modern Language Latin	Take: English General Science Algebra Arithmetic Music } 5 Gymnastics Elect one: A Modern Language History Latin	Take: English French, German, or Spanish Algebra Arithmetic Music } 5 Gymnastics Elect one: General Science History	Take: English Commercial Arithmetic, Business English, Spelling, and Penmanship Expression Music } 5 Gymnastics Spanish or French or German	Take: English, Algebra Joinery and Cabinet, and Mechanical Drawing and Art Elect one: History A Modern Language General Science Vocational Guidance	Take: English Cooking and Sewing Algebra or First Year Mathematics Music Gymnastics } 3 Elect one: General Science A Modern Language History, Art
English Gymnastics Expression Algebra Geometry Medical History A Modern Language Latin Botany and Zoology Stenography Typewriting Shop Work Home Economics Art Chorus Military	Take: English, Latin Geometry Gymnastics Expression Elect one: Botany and Zoology French, German, or Spanish Medical History	Take: English Modern History Geometry Expression } 4 Gymnastics Elect one: A Modern Language Latin	Take: English Botany and Zoology Geometry Expression } 4 Gymnastics Elect one: A Modern Language History Latin	Take: English First Language [Con.] Geometry Expression } 4 Gymnastics Elect one: A Second Modern Language History Botany and Zoology	Take: English, Bookkeeping, Gymnastics (2) First Year Mathematics, Modern Language [Con.] May select three periods: Expression (2) Music (1), Study (3) Salesmanship (3)	Take: English, Pattern Making and Wood Turning and Mechanical Drawing, Geometry Elect one: A Modern Language History Physical Geography	Take: English Cooking and Sewing Expression Gymnastics } 5 Design Elect one: A Modern Language History Applied Art Geometry or Second Year Mathematics
English Algebra Geometry Modern History A Modern Language Latin, Art, Chorus Public Speaking Commercial Law Business Correspondence Bookkeeping Stenography Typewriting Shop Work Home Economics Military, Physics Physical Geography History of Commerce	Take: English, Latin Algebra Elect one from: Physics, Physical Geography, Modern History Elect one from: French, German, or Spanish	Take: English Modern History Algebra May elect two: A Modern Language Latin Physical Geography Botany and Zoology	Take: English Physics Algebra (common) A Modern Language May elect one: History Latin A Modern Language	Take: First Modern Language [Con.] Algebra (common) May elect two: Physics Physical Geography History Second Modern Language	Take Continue Bookkeeping, Stenography, and Typewriting, English Literature and Bus. Correspondence, Commercial Law and History of Commerce May elect one: Economics Modern Language * May postpone to Senior Year	Take: English Forge Work Algebra (common) Physics Elect one: A Modern Language History Commercial Geography	Take: Englis Cooking and Millinery and Household Chemestry. Applied Art Elect one A Moedrn Language History Chemistry
English, Art American History and Civics Commercial Geography, Trigonometry A Modern Language, Finance, Latin Commercial Law, History of Commerce Chemistry, Physics Stenography Home Economics Typewriting Chorus, Geometry Economics Physical Geography Shop Work Military Public Speaking	Take: English, Latin, American History and Civics Elect one: Geometry Trigonometry, Chemistry French, German, or Spanish	Take: English American History and Civics Elect two: Geometry Trigonometry Science (one) A Modern Language Latin	Take: English, Chemistry American History and Civics Geometry and Trigonometry May elect one: A Modern Language Physical Geography Latin	Take: English First Modern Language [Con.] American History and Civics Elect one: Geometry and Trigonometry Second Modern Language Chemistry	Take: Stenography and Typewriting, American History and Civics, Commercial Geography May elect one: Commerce and Finance, Economics,* English Literature and Business Correspondence *Business Economics required in Third or Fourth Year	Take: English Machine Shop Chemistry Geometry and Trigonometry American History and Civics must be taken in Third or Fourth Year	Take: Cooking and Millinery American History and Civics Applied Art May elect a Modern Language

The preceding chart shows the curriculums of the Central High School as they now stand. Reference to this and to the circular of information that is placed in the pupils' hands reveals the fact that the constants are four units of English, one unit of American history and civics (in grade 12), where it should be, two units of foreign language, and two units of mathematics. The principle of constants is therefore observed, in theory; but in the opinion of the surveyors the constants specified are not specified in the right amounts. Too much English and too much mathematics are exacted of some pupils and not enough social studies; while foreign language certainly should not be forced upon all high-school children.

According to the belief of many of the best authorities in education, two units of English, two of social studies, and one each of science and mathematics should be constants, required of all students for graduation. One of the units of social studies, assuredly should be American history and civics, and this should be taken in the last year of the high school. The high-school students have then reached the age when they take a strong and lively interest in their personal relations to citizenship and social cooperation for the achievement of common purposes. Why one year of science at the very least should be insisted on will be explained in Chapter VII, which deals especially with science instruction in the Memphis schools.

Is the principle of major and minor sequences observed, so that persistence of effort and both depth and breadth of training are secured for each pupil?

Again referring to the curricula, we see that the major and minor sequences are as follows:

Curriculums.	Major sequences and numbers of units.[1]	Minor sequences and numbers of units.
Latin	English, 4; Latin, 4; Mathematics, 3	None.
History	English, 4; history, 4; mathematics, 3	None.
Scientific	English, 4; science, 4; mathematics, 4	None.
Modern language	English, 4; modern language, 4; mathematics, 3.	None.
Commercial	English, 3	Arithmetic and bookkeeping, 2; stenography and typewriting, 2; modern language, 2; social studies, 2.
Technical	English, 4; drawing and shop, 4;[2] mathematics, 4.	Science, 2.
Home economics	English, 4; cooking, sewing, and millinery, 4.	None.
Elective	English, 4	None.

[1] The Arabic numerals tell the number of years or units offered.

[2] Machine shop. Schedule for the fourth year can not be given. There is no machine shop, which is a pity.

From this comparative table it appears that four of the eight curriculums require three majors and no minor; one requires three majors and one minor; one requires one major and four minors; one requires two majors and no minor, and one requires one major and no minor.

Thus, as far as the general requirements for graduation are concerned, it is evident that the principle of requiring two major sequences and two minor sequences from every candidate for graduation is not upheld. The curriculum that most nearly approaches the application of this principle is the "Technical," which requires three major sequences and one minor sequence.

However, in each of the curricula it is possible for the student to obtain from the elective studies certain major and minor sequences; so that this principle of depth and breadth of training might be enforced by a general graduation requirement. The school is not now making such a general requirement. In the Latin curriculum a student may elect a major or a minor sequence in either science or history in the history curriculum, a major or minor in Latin or in a modern language, or a minor in science. In the scientific curriculum he may elect a major or a minor in history, in a modern language or in Latin. In the technical curriculum minor electives are offered in modern history and geography, in the home economics curriculum a major or a minor in history or in a modern language and a minor in art; while in the commercial curriculum no additional major or minor sequences are obtainable, and in the elective curriculum either majors or minors may be obtained in Latin, modern languages, mathematics, science shop, home economics, commercial work or art.

CURRICULUMS NOT WISELY PLANNED.

It is clear, therefore, that the program of studies is broad enough and there are sufficient sequences of studies to make it " deep " enough, so that any student may get two majors and two minors. Furthermore, according to the rules of choice announced by the school circular mentioned above, a major sequence in English and minors in mathematics and in a foreign language, together with one year of history and one of science, must be included by every student among the 32 half units to be completed for graduation. Yet even with these specifications of constants the curriculums in many details are not wisely planned. In the first place, the requirement of constants just stated can not be fully met by pupils in the commercial curriculum without going outside this curriculum for the one year constant of science and without crowding the electives out of the fourth year. In the second place, in many cases the sequences of studies are not well and consistently arranged and the constants are not wisely chosen. Thirdly, the curriculums and the sequences of studies seem to be arranged with the idea most prominently in mind of giving the pupil a very wide and free choice of studies that he may fancy to pursue or choose to avoid. These curriculums do not appear to be planned with the idea of offering him or her a choice of a consistent and purposeful program of training for the kind of work that he or she is naturally fitted for and wants to do in the living working world. Nor do the schools have and carry out an efficient plan of educational and vocational guidance that would help the pupils to discover their capacities and aptitudes and give them the information about the studies of the high-school program that would enable each to choose the curriculum that should give him or her the best training for present needs and future career. Fourthly, and finally, in effect, the curricula practically (though not nominally) allow the pupils almost unlimited liberty in choosing studies.

This liberty of elections makes it exceedingly difficult to construct a time-table that will work, especially when there are many pupils who fail and become "repeaters" in one or more subjects or turn to some other subject that has gained an "easy" reputation.

Furthermore, large liberty of election is not good for pupils of high-school age. They do not know enough and can not know enough to choose wisely among such an array of studies. Neither are their parents nor even many of their teachers well enough versed in the philosophy and science of education and the details of the various lines of training to guide them through such a labyrinth of mysteries. The free-election system is being abandoned in the colleges. Assuredly, then, it has no place in the high schools.

NEW CURRICULUMS RECOMMENDED.

The members of the survey commission, therefore, have reached the conclusion that it would be advisable to suggest for the Central High School a group of curriculums definitely planned to meet the needs of each of the several groups into which the pupils attending that school would naturally fall when classified according to the data which the commission has obtained concerning the needs and probable aims of the children themselves and concerning the needs and activities of the community of Memphis and its tributary territory.

These classes into which the pupils seem naturally to fall are as follows:

1. Those who intend to continue their general education in colleges of arts. For these an "Arts preparatory curriculum" has been planned which will fit them for any college of arts, philosophy, and science; in other words, any college of the usual sort.
2. Those who intend to enter colleges of engineering, medicine, agriculture, or commerce and journalism for specific higher training in the professions in which much knowledge of the sciences and of mathematics is necessary. For these the "Science Preparatory Curriculum" is offered, which will fit them for such colleges and professional schools.
3. Those who on graduation from the high school will go directly into business and commercial lines. For these the "Commercial Curriculum" has been planned. This will give them both breadth and

depth of education for citizenship as well as specific preparation for starting a business career in a store or office or warehouse.

4. Those who will go directly into the industries or manufacturing lines, where knowledge of shop work and science are essential to success, and who expect to work up through shop experience into positions of responsibility in the management of such businesses. For these the "Industrial Curriculum" has been outlined.

5. Those girls who do not intend to go to college, nor into business, but whose main interests center in the home. For these, the "Home Ecomonics Curriculum" has been planned. This will afford a good cultural training for the woman citizen, as well as specific training in the science and art of home making.

6. Those whose main interest is in music. For these the "Music Curriculum" offers a central core of musical studies with the other studies that are basic for both general culture and social and civic activity, together with a line of elective studies to be chosen from among those offered in other curriculums.

7. Those whose main interest is in art. For these the "Art Curriculum" is offered, with a core of art studies and with other studies essential to a fine type of social and civic life. Here also the girl or boy may choose one elective study in each of the first three years and two in the fourth.

The arts preparatory curriculum.[1]

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Foreign language	I	II	III	IV
English	I	II	III or	IV
Mathematics	I	II	III or	
Natural science	Civic biology or	General geography or	Physics	Chemistry or mathematics or physics III.
Social studies	Civics	Ancient and medieval history.	Modern history	American history and civics.
Physical training	I	II	III	IV

[1] For students who intend to enter colleges of arts.

Music or art or both may be elected for three periods per week.

This curriculum provides sequences of four years in Latin or a modern foreign language (French or Spanish), four in English, three in mathematics, four in natural science and four in social studies; but since there are 20 units represented (five for each year), they can not all be taken by any one student. Most schools require 16 units for graduation, as the Memphis Central High School does, and most of the colleges require 15 for full entrance credit. Hence there must be options allowing the omission of four of the 20 units. Thus in the first year there is indicated an option between civic biology and community civics; and in the second year between general geography and ancient and medieval history. In the third year any student may choose either third year English, third year mathematics, or physics; and in the fourth year he may study chemistry, or he may substitute for it either physics or third-year mathematics if he has omitted either of these in the third year and still wants to get it, rather than chemistry. Since the maximum requirements of practically all of the arts colleges for both men and women are satisfied by four years of Latin or a modern language, four of English, two or three of mathematics, two or three of social studies and one of science—with a total of not fewer than 15 units, it is clear that by exercising the proper options in this curriculum of 16 units the student may prepare himself to meet the requirements of any arts in college in the country, provided that the content of the courses and the methods of teaching them are satisfactory. Furthermore, this curriculum as well as each of the others presented here, fulfills the requirements of the constants and major and minor sequences, which we already have explained, and laid down as a basic principle.

According to the recommendation of the survey, the reasons for which are fully discussed in Chapter X, on Health Work in the Memphis Schools, this curriculum in common with the others requires each student to carry five periods per week, each year, in physical training. This makes the daily program of the student look like a heavy one; but it should be remembered that a certain amount of physical exercise and play is necessary for everyone in order to maintain health and build a good body. Provision is also made for crediting against this requirement exercise taken in other ways, and outside the scheduled hours. It is claimed by hygienic authorities that students do more and better work in their studies with this regular physical exercise than they do without it; and it, of course, requires no study or preparation outside the scheduled periods.

In addition to the regular four unit courses per year and the physical training, it is provided that the student may take work in music or art up to three periods per week. This work is to require no study outside the classroom.

The science preparatory curriculum.

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Foreign language	I	II	III	IV
Mathematics	I	II	III	
English	I	II		IV
Social studies	Civics or	Modern history	American history	Problems of democracy.
Natural science	Civic biology	General geography.	Physics	Chemistry.
Physical training	I	II	III	IV

Music or art or mechanical drawing and shop work may be elected up to 3 additional periods per week.

This curriculum is less flexible than the preceding, having only one option—that between civic biology and community civics. It, however, meets the requirements of standard colleges of engineering, technical schools and premedical courses, and also gives a good all-around training for boys who like science and mathematics.

The commercial curriculum.

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Drawing and shop-work.			I, II, or III or	II, III, or IV or
Music or art			I or	II or
Language	English composition, spelling, punctuation, literature I.	English composition, rhetoric, literature II.	Foreign language I, or English composition and literature III, or	Foreign language II, or English composition and literature IV, or
Natural science	Civic biology or	General geography.	Physics	Chemistry, agriculture, or botany, and forestry.
Social studies	Civics	Modern history	American history.	Problems of democracy.
Mathematical studies.	Commercial arithmetic and bookkeeping.	Bookkeeping and office practice.	Costs and contracts, salesmanship and advertising.	Auditing, banking, and finance, insurance and investments.
Commercial studies	Stenography and typewriting.	Stenography and typewriting.	Office and factory management, personnel work, elementary business law.	Elements of economics IV.
Physical training	I	II	III	IV

Music or art or mechanical drawing and shop work may be elected in the first and second years up to 3 periods per week; also in the third and fourth years if full courses in either of these subjects are not chosen as indicated above.

This curriculum makes a very strong course of preparation for any boy or girl wishing to start in a store or office and work up into a business career. It requires the studies most essential for business and citizenship; and it provides by options in the third and fourth year for either a good training in the sciences that underlie the business activities of Memphis and its vicinity, or for two years of additional study of English composition and literature, or two years of foreign language or of shop work and drawing or of art or music. Hence an abundance of both vocational and cultural training is provided by it. The students who choose this curriculum are not hampered by being compelled to take a foreign language or college preparatory algebra and geometry, but take instead studies that are just as good for intellectual development if well taught. However, if they strongly wish to do so they may choose these studies instead of the scientific ones, and still have the essentials of a good commercial training.

Another strong point in the make-up of this curriculum consists in the fact that the first half of it affords for those who can stay but two years in high school an excellent short business curriculum, containing the essentials for citizenship and for preparation for work in an office or store. Therefore it would be advisable to grant a certificate of proficiency to such pupils as shall have satisfactorily completed these first two years and must then leave school. In every school there are many such, and their needs should be provided for by just such a short course of training.

Another great advantage of this curriculum is that many pupils will be held in high school by it who would otherwise drop out; for many will enter a two years' course who would not enter at all if they must spend four years in getting what they want. A good share of these also, having stayed two years and succeeded in the work because it was the kind of work they wanted to do, would by that time appreciate the great value to them of further training; and these would remain and graduate in the four-year curriculum. Thus they would train themselves for ultimately rising to managerial or secretarial positions instead of remaining as under clerks or petty sales people.

The industrial curriculum.

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Drawing and art			Freehand drawing, color and design I, or	Freehand drawing, color and design II, or perspective and projection II, or
Language	English composition, spelling, punctuation, literature.	English composition, rhetoric, literature.	Foreign language I, or English composition and literature III, or	Foreign language II, or English composition and literature IV. or
Mathematics	Algebra (5), or algebra (2), geometry (2), graphs, and geometrical construction.	Plane and solid geometry (5), or algebra (2), geometry (2), graphs, and geometrical constructions (1).	Advanced algebra, trigonometry, and elementary coordinate geometry.	
Social studies	Civics or	Modern history	American history	Problems of democracy.
Natural science	Civic biology	General geography.	Physics	Chemistry.
Industrial practice.	Mechanical drawing and woodwork.	Drawing and cabinetmaking, wood turning and pattern making, bench-metal work or sheet-metal work.	Forge work, foundry practice, or drawing and machine shop.	Machine drawing and machine shop.
Physical training	I	II	III	IV.

Art or music may be taken each year as an additional part-unit elective up to three periods per week, excepting art in the third or fourth year, when full unit art courses are chosen as electives.

This curriculum in its main features is similar to the commercial, excepting that the course consists of drawing, shopwork, science, and mathematics instead of commercial studies. It has the same advantages for the boys who are mechanically and scientifically inclined that the commercial has for those who are commercially inclined.

The home economics curriculum.

(See also course outlined in Chapter IX.)

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Art	Drawing, color and design I.	Drawing, color and design II.	Drawing, color, and costume design III, or	Drawing, color, and interior decoration IV, or
English	Composition, spelling, punctuation, literature I.	Composition, rhetoric, literature II.	Composition, literature, history of literature III, or	Composition, literature, history of literature IV, or economics IV.
Social studies	Civics or	Modern history	American history	Problems of democracy.
Natural science	Civic biology	General geography.	Household physics and chemistry.	Dietetics, care and feeding of children, first aid, and nursing.
Home economics	Foods and cooking (3) I, textiles and sewing (2).	Foods, cooking, and sewing (2), textiles and sewing (3) II.	Dressmaking and millinery III.	Household management, housewifery, budgets and accounts, laundry IV.
Physical training	I	II	III	IV.

Music may be taken each year as an elective fractional unit up to three periods per week. Two, three, or four units of Latin or a modern language, or one, two, three, or four full units of music, or one, two, or three units of mathematics may be elected instead of art, if with the formal approval of the principal.

This curriculum is intended for girls who can not go to college or do not wish to go, but who want as good an education for all-around development with special reference to social, civic, and home activities, as they can get in high school. The home economics curriculum will give them this; and, at the same time, it frees them from the incubus of foreign language and college preparatory mathematics requirements. It also lets them out of two of the four units of formal English that are usually required; and in place of the four years of foreign language, the two or three years of mathematics, and two of the four years formal study of English it gives them science, history, home economics, and art, with options in sociology and economics. All of these things are far more essential to the modern woman than foreign languages and formal mathematics. These last, however, or full units in music, may be elected instead of art by those who have definite and valid reasons for preferring them, and who secure the formal approval of the principal. This curriculum seems to violate the principle of constants in that the constant of one unit of mathematics does not appear in it. However, there is in it opportunity for equivalent mathematical practice, since arithmetic is in constant use in connection with the study of foods, of household physics and chemistry, and of dietetics. Hence, the mathematical side of mental development is not neglected. To some again it may seem unwise to let girls off with only two years of formal English; but if good English be required in all recitations, notes, and reports in connection with the required subjects, and if a taste for good reading has been formed by the end of the second year, as it should be, there will be little real loss to her literary culture if the girl does not elect the last two years of formal English. A more thorough knowledge of art or music, or thorough courses in sociology and economics, should add more to her thinking ability and culture than two years practice in the vivisection of literary classics of a by-gone time.

The music curriculum.

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Music	I	II	III	IV
English	I	II		
Social studies	Civics or	Modern history	American history	Problems of democracy.
Natural science	Civic biology	General geography.	Household physics and chemistry, or physics III.	Chemistry IV or physics III, or
Electives	French I	French II or I	French III, II, or I.	French IV, III, II, or I.
	Spanish I	Spanish II or I	Spanish III, II, or I.	Spanish IV, III, II, or I.
	Home economics I.	Home economics II or I.	Home economics III, II, or I.	Home economics IV, III, II, or I.
	Mathematics I	Mathematics III, II, or I.	Mathematics III, II, or I.	Mathematics III, II, or I.
	Shop work	Shop work II or I	Shop work III, II, or I.	Shop work IV, III, II, or I.
	Art I	Art II or I	Art III, II, or I	Art IV, III, II, or I.
		History of music II.	History of music II.	History of music II.
			Sociology III	Economics IV.
				Sociology III.
			English III	English III or IV.
	(1 unit.)	(1 unit.)	(1 unit.)	(2 units.)
Physical training	I	II	III	IV

Choice of optional or elective studies must provide for a major sequence of three consecutive units in one other subject besides music. A fractional unit of art may be elected in addition to the four full units of each year, excepting when a full unit of art work is elected.

The music curriculum, like the home economics curriculum, does not require the student to study any foreign language, any formal or college preparatory mathematics or more than two years of formal English; yet she may obtain by election a major or a minor sequence in any of these if she desires, for good reasons, to do so. This curriculum is expected to appeal strongly to a considerable body of girls; but it also provides for boys whose principal gifts and interests incline them toward a musical career. It allows a larger freedom of election than the preceding curriculums, but it safeguards the fundamental principles of curriculum making that we have previously laid down, and to which we have frequently referred. This curriculum will fit the student to enter any standard conservatory of music provided the student chooses among the optional studies and electives so as to meet the minimum entrance requirements of the particular school which she (or he) desires to enter. (For a further discussion of music in the high schools see Chapter VIII.)

The art curriculum, which follows, is similar in intent and purpose, as well as in make-up and arrangement, to the music curriculum. It provides for the interests and needs of both boys and girls whose primary talents and capacities be within the field of art. It provides by proper choice of optional and elective studies for entrance into standard schools of art. It also affords a well-balanced high-school education for all-around womanhood or for young men of special talent and limited means who wish to take up directly the work of a cartoonist, illustrator, advertising artist, engraver, printer, etc., and learn it through a process of apprenticeship. Many such boys leave our high schools with a handicap because they are obliged to spend their time in them taking subjects for which they have little aptitude and less interest, while they miss much valuable training at which they would work hard and by which they would profit greatly. This curriculum would be a boon to such boys and should appeal strongly to them.

The art curriculum.

Grade.	Ninth.	Tenth.	Eleventh.	Twelfth.
Art	I	II	III	IV
English	I	II		
Social studies	Civics,	Modern history	American history	Problems of democracy.
Natural science	or Civic biology	General geography	Household physics and chemistry.	Principles of art reproduction (engraving, etching, photographing, textiles, etc.
Elective	French I	French II or I	French III, II, or I.	French IV, III, II, or I.
	Spanish I	Spanish II or I	Spanish III, II, or I.	Spanish IV, III, II, or I.
	Home economics I.	Home economics II or I.	Home economics II or I.	Home economics IV, III, II, or I.
	Shop work I	Shop work II or I	Shop work III, II, or I.	Shop work IV, III, II, or I.
	Mathematics I	Mathematics II or I.	English III Mathematics III, II, or I.	English III or IV.
	Music I	Music II or I	Music III, II, or I	Music IV, III, II, or I.
		History of art	History of art Sociology III	Economics IV. Sociology III.
	(1 unit.)	(1 unit.)	(1 unit.)	(2 units.)
Physical training	I	II	III	IV

Choice of optional or elective studies must provide for a major sequence of three consecutive units in one other subject besides art. A fractional unit of music may be elected in addition to the four full units of each year, excepting when a full unit of art work is elected.

THE LATIN AND MODERN-LANGUAGE SEQUENCE.

The Latin and modern-language sequences are so firmly established and so standardized by the well-known associations of colleges and secondary schools that they need little comment here. The circulars and bulletins issued by these associations and by the various colleges explain them in greater or less detail. The sequences all are ordinarily of four units. There may be four—of Latin, or of French, or of Spanish, or of German; but many colleges accept minor or two-unit sequences of each of two languages in place of a major sequence of one. To many pupils this alternative may be an advantage; and the school should permit it for such pupils who are either not preparing for college entrance or are intending to enter colleges which accept it.

Of late years there has been a pronounced tendency to make the contents of these sequences more interesting and easier of mastery, especially in the second year. In Latin it has been advised that instead of the usual reading of the first four books of Caesar's Gallic War entire, some of the more difficult parts of these books be omitted or translated for the pupils with explanation by the teacher, and that selection from Caesar's Civil War and the Lives of Nepos be substituted, that some omissions be made from the six orations of Cicero usually required for the third year, and that his De Senectute and some of his letters or some selections from Sallust be substituted, and that, instead of confining the pupils of the fourth year to the first six boks of Virgil's Aeneid, they read some selections from the last six books of the Aeneid, the Bucolics, or the Georgics, or some selections from Ovid. This tendency to make the contents of the courses more varied and interesting shows prominently in some of the more recent first-year books, in which there are interesting stories and pictures of Roman life. The movement headed by Miss Sabine, toward vitalizing Latin by emphasizing its many derivatives in English and the Romance languages, and the many uses of Latin words in everyday life is doing much to arouse the interest of the pupils in studying it. Charts and posters like those devised by Miss Sabine are quite extensively used in the Memphis Central High School and are undoubtedly creating strong interest on the part of the pupils who are inclined to take them.

A similar tendency is observable in French, Spanish, and German, and shows itself in the choice of easier reading and more of it.

Choice selections of short stories and other modern literature are frequently substituted for the more difficult of the classics that were formerly prescribed.

German has been dropped from many high schools because of the recent revelations concerning the perfidy and insidiousness of the "Deutschtum" propaganda. The Spanish language is perhaps of more concern to us than German, since our relations with the Spanish-speaking peoples of Cuba, the Philippines, and the Central and South American States are likely to be much closer in the immediate future than our relations with the Germans. It may not be out of place to say here that the importance of Latin and modern foreign languages in general education has been much overemphasized, and that the practice, so widely followed, of making all students study one or more of these has driven out of school many pupils who should have continued there, and has taken from many others much time that they might more successfully and profitably have spent on history, sociology, economics, geography, biological and physical science, home economics, commercial studies, or drawing and shopwork.

These when properly taught are for the most part just as cultural as foreign languages, and to the large majority of pupils are much more useful. Most people who have been through high-school and college courses in foreign languages do not either read or speak them with practical or pleasurable facility and would have gained both a wider and a more thorough acquaintance with the literatures of these languages through good English translations. There must, of course, be classicists and modern-language experts among our professional scholars, and these should start their linguistic studies early. But do we need to make all or nearly all high-school and college students take these languages in order to find and identify the few who have sufficient aptitude and interest in them to become really proficient? National economy in education should provide less wasteful means. We should train in these languages the few who may become producers of valuable literature and philological studies concerning them, or who can become gifted translators and interpreters of their literatures, and we should let the other few who can profitably do so read these literatures in such translations. Thus the overwhelming majority of high-school pupils who will never care for these things or work profitably with them may be freed from them and allowed to get from wider and more intensive reading and study in English literature, art, history, and science those cultural values that are so strongly claimed for foreign-language study and for the most part so little realized. The study of foreign languages was no part of the training of those who produced the great masterpieces of Greek literature. The cultural studies of the Athenian youth were their own national literature, music, gymnastics, art, and choral dancing.

THE MATHEMATICS SEQUENCE.

The mathematics sequence also has been standardized through college entrance requirements and the influence of certain widely used series of textbooks. Algebra through radicals and including the simplest methods of solving, quadratic equations (1 unit) is ordinarily prescribed for the ninth grade, and plane geometry (1 unit) for the tenth grade. These two units are followed in the eleventh grade by solid geometry (½ unit) and advanced algebra (½ unit), including simultaneous quadratics, progressions, binomial theorem, and in some of the requirements the simpler cases of permutations and combinations, of determinants, and of solutions of equations of higher degree. Many schools finish the unit and a half of algebra before beginning geometry; but this is unwise, both because the advanced algebra is abstract and difficult and so should be left until the pupils are more mature, and because geometry is (or may be made) more concrete and more closely connected with daily life activities, and should therefore be begun early. These same reasons make it desirable that the solid geometry should precede the higher algebra in the third year.

Recently the custom has been growing among the arts colleges to let the entering students off with two units of mathematics. one of algebra and one of plane geometry instead of demanding three. This loosening up of the former rigidity is highly commendatory, but unfortunately it is not applied in the wisest possible way. The pupils who take advantage of this liberality spend too much time on plane geometry and get no training at all in solid geometry, which is of vastly greater practical value on account of its more numerous applications. The student who learns no solid geometry also misses much, because this is one of the very few school activities that train the students to think and imagine in three dimensions of space. The other studies that do this are mechanical drawing, manual training, modeling, and free-hand drawing from model. The pupils who get no training in these arts are only too likely to be the same ones who omit solid geometry.

The obvious remedy for this one-sided requirement is to omit from plane geometry a large portion of the abstract, uninteresting and almost useless materials that have been accumulating in the textbooks during the last 25 years, and to retain only the most important and most concrete propositions. By such wise eliminations and selections the subject matter of geometry could be reduced in amount to what it was 30 or more years ago.

At the same time, the great improvements in methods of organization and proof, and in methods of teaching, including particularly the emphasis on original proofs and practical problems to be solved by the pupils, should be retained and carried still further forward. Thus both the college preparatory pupils and those not preparing for college could get a good working knowledge of both plane and solid geometry in one year. That this can be done, the writer personally knows because it was done by the generation to which he belongs; and his extensive observations of high-school pupils has not convinced him that the average high-school pupil of to-day is conspicuously better able to handle the higher mathematics in college with his three units of preparatory mathematics than were we of their father's generation with our two units. Algebra, like geometry, has been tremendously overloaded, and the books are clogged with much traditional material which is of no practical use whatever to most of those who study it, and is not at all necessary even for those who are preparing for the study of the higher mathematics. If the content of the algebra courses were reduced by omitting those topics and methods that are highly theoretical and of interest only to mathematicians, or are little used in practical affairs, or are too abstract and difficult for high-school pupils to master, and are not at all essential in preparation for college mathematics, this subject could easily be covered satisfactorily in one year. The essentials of plane trigonometry and the simplest elements of surveying together with some of the simplest facts and relations of coordinate geometry could then be offered as a third elective unit, which would be of great value to a considerable number of pupils.

Within the past 10 years experts in the pedagogy of mathematics have been strenously advocating another reform. They make the claim that arithmetic, algebra, geometry, and trigonometry have been parceled off as it were into water-tight compartments, and their principles taught with too little relation to one another. They believe that all these are not separate subjects, but should be thought of and taught as different phases of the one great subject, mathematics. Hence the simplest fundamentals of algebra should be given in the seventh and eighth grades as literal arithmetic, and taught as modes of generalizing the arithmetical processes and problems with which the pupils have already become familiar. Very simple algebraic equations can also be introduced in order to show how certain problems that are very abstract and elusive when the attempt is made to solve them by purely arithmetical methods, become very simple and direct when negative numbers, literal notations, and the algebraic equation are employed.

In the ninth grade the introduction of each new topic in algebra should be based on the pupils' knowledge of the corresponding arithmetical process; and it should begin inductively with a brief review of this process. Simple, concrete problems of geometrical construction of plotting on squared paper, of paper folding, and other types of inventional and practical geometry should be given, also, in connection with arithmetic in the seventh and eighth grades. In the ninth and tenth grades algebra and geometry can be carried on together, using geometrical constructions to illustrate and classify algebraic equations, and using algebraic methods in the solution of geometrical problems. Such an introductory unit of combined algebra and geometry should contain only the simpler and easier problems and propositions of both these branches. The approach to each new phase of the subjects should be inductive, starting with many simple problems and relations that are particular cases of the principle to be taught. The second unit should be a continuation in like fashion of the first, but should treat the more advanced phases of both subjects. The third unit when offered should combine in the same way the simpler principles and practical applications of trigonometry, surveying, and coordinate geometry, with abundant practice in the use of logarithms and the slide rule. In order to distinguish them from the traditional "water-tight" units in the more common use the three units here described are called respectively first year mathematics, second year mathematics, and third year mathematics. It would be better to change this, and to think of a five-year sequence including grades seven and eight. These should be named seventh grade mathematics, eighth grade mathematics, ninth grade mathematics, and so on.

Throughout these five years the graph should be freely used, and in all, practice should be given on many shorter and easier problems instead of on relatively few long, complicated and difficult problems. This reform movement is new and strange to most school systems and has rarely been given a sincere and competent trial; but its feasibility has been abundantly demonstrated in a few schools, and it has been in successful operation for years in European schools.

It has been tried in some classes of the Memphis Central High School but members of the survey commission have been told that its abandonment is in contemplation because the teachers who attempted it, did not like the available textbooks, and claimed that with these they could not make the work successful. We do not think this a valid excuse. High-school teachers should be competent to adapt the materials of existing textbooks to their purposes, omitting here, and supplementing there, or they should even be competent to make their own textbooks if those available do not approximate to their ideas of what should be chosen for presentation and how it should be presented.

We recommend that this experiment be continued. The objecting teachers should be directed to give this matter more sincere and earnest study either by themselves or at the University of Chicago or the University of Missouri, where leaders of this movement are teaching, or else another teacher, who has had the training and can make it a success, should be employed and given charge of the classes to which this type of sequence is assigned.

THE ENGLISH SEQUENCE.

The English sequence consists of three or four unit courses, arranged to suit the stage of maturity and gradually widening interests and capacities of the pupils and each consisting of three types of work. These types or phases of English study are as follows: (*a*) Theoretical or form study, including spelling, punctuation, study of words, syntax, and the principles of versification and the simplest and most fundamental principles of rhetoric and literary criticism. More briefly, these studies are included under the terms spelling, punctuation, grammar, and rhetoric. (*b*) Composition, written and oral. (*c*) The reading and study of literature. These three kinds of study should go on together, because they represent the three fundamental human activities in connection with language and literature—namely, understanding, production, and appreciation. These are inseparable in life; so they should not be separated in instruction. In the first year (ninth grade) the emphasis in form study is usually rightly placed on correct elementary mechanics in composition. The sensible aim is to train the pupils to write paragraphs or make short speeches (oral composition) about things or activities, or selections from literature in which they are most vitally interested, and to produce these in clear, concise, grammatically correct, and properly spelt, capitalized, and punctuated form when written, or in properly vocalized and modulated form, with correct bodily attitudes, when delivered orally. This requires attentive study of the rules and principles of spelling, capitalization, punctuation, and syntax, and of oral expression, and some study of the meanings, derivations, and choice of words. All these should be carried on in close connection with the production of the paragraphs and their reduction by revision to correct form. Too much care can not be taken by the teacher in insisting that the pupils correct all the errors that they make and that they be able to tell the reasons for the corrections. Some teachers of English claim that you can not get young pupils to express themselves freely and use imagination if you insist that they correct their mistakes, but the writer takes direct issue with this claim as the result of an extended experience in teaching and observing the ninth-grade English classes. It all depends on the way the teacher does it.

The reading in the ninth grade consists usually of two or more standard novels or stories by the best modern writers, to be read outside of class hours and reported on, and certain selected poems, dramas, short stories, essays, or orations to be read in the classroom, in whole or in part, and discussed there. In preparation for this work some definite outside study is or should be required. The kind and amount of oral reading should be such that it will be both profitable and pleasurable for those who listen, and the silent reading at home and in the classroom should be such that after it the pupils can discuss informally among themselves the passages so read with understanding and appreciation. Success in this again will depend largely on the kind of questions or suggestions used by the teacher in stimulating and guiding the discussion.

Not only should the teacher aim at understanding and appreciation, but he should also present the meritorious features of the selection in such a way that the pupil may find in it models that he can understand and imitate in his own writing. In this literature also the pupils should find opportunities for the development of tastes and appreciations, and the growth of those ideals that are so important in the building of character. The composition work should include business and social letters, articles for the school paper, bits of description, narration, exposition, and argument, all of course on familiar and concrete subjects, and in the simple language of youthful sincerity.

The second unit (tenth grade) continues that of the first, but substitutes the study of rhetorical principles for the mechanics of English and places more emphasis on the study of literature. It would be better if in this year more of the English teachers were to give greater attention to pointing out the applications of rhetorical principles to the composition work that the pupils produce and to the literature selections that are studied. Greater economy of learning and better results would thus be obtained than most teachers now obtain. In most cases the rhetoric is studied as a formal book subject nearly or entirely divorced from the composition and literature study.

In the third and fourth units the literature selections are or should be of a type appealing to a greater degree of maturity and they should be chosen with a view to using them as types to illustrate systematically the different forms of literature such as the drama, the essay, lyric poetry, epic poetry, the short story, the novel, and so on, together with clear and simple information as to what are the distinguishing characteristics of each. Some systematic attention should also be given to the significant facts in the lives of the authors, and the formative influences that contributed to their ideals and their productiveness. So also there should be some consecutive and organized lessons on the most important periods of English and American literature; but a formal textbook study of the history of literature with attempted memoriter recitations of what the book says about many authors should not be allowed to crowd out the pupil's opportunities to become acquainted at first hand with a choice few of the best literary productions. In these last two years the formal study of rhetoric should be discontinued, but in the composition work, which should be growing more ambitious, good rhetoric should be insisted on and a habit of careful revision and correction of errors should be enforced. Oral expression in the form of dramatics, debates, recitations, after-dinner speeches, and "conversations" should form a prominent part of the work of the eleventh and twelfth grades and should be connected as closely as practicable with the literature that is being studied and the individual and group activities of the pupils outside the classroom. Such a sequence of three or four years of English studies should bring diligent and intelligent pupils to the point where they can write or speak in clear and correct English about the things in which they are interested, and where they have acquired not only a taste for good reading but also the habit of using spare bits of time in reading books of real and permanent worth.

It will be noted that in several of the curriculums that we have suggested for the Memphis Central High School, English does not appear in the eleventh grade, and in others it is not found in either the eleventh or twelfth grade. In others it is offered in these grades as an elective. This is done on the assumption that in the cases of pupils for whom these curriculums are prepared (1) other things are or may be more necessary and (2) that if the first two years' work were well done the pupils would by that time have learned to write fairly well and would have formed the reading habit; so they should be expected, with properly organized school guidance, to continue a course of reading for pleasure and profit during their leisure moments, at week-ends, and during vacations. Finally (3) it can not be stated too emphatically that good English should be insisted on from the pupil in all his oral recitation work, and in all reports on supplementary reading and other written work required in the course of daily instruction in every subject. Training in the use of good English either oral or written is a matter of habit formation rather than a matter of formal instruction in grammar and rhetoric. To fix these habits of speech it is necessary to have the pupil speak or write the right words in their correct relations and repeat them in these relations with fixed attention on them and without permitting any lapses into wrong ways until the words come in their correct forms and orders automatically. If you want a child to say "have gone" instead of "have went," you must stop him every time he says "have went" and make him say "have gone." Then you must warn him and urge him to think about saying it the right way every time and not permit himself any lapses. Every teacher owes it to his pupils to make them correct their English whenever they make errors in speaking or writing; and if public-school teachers in all grades did this as well as the teachers in our best private schools invariably do, our national speech in a very few years would no longer give us cause for shame. Every teacher, whatever his subject, is a teacher of English—either bad English or good English, according as he habitually uses good English himself and insists that his pupils use it, or as he does the reverse. This is a responsibility that no teacher can escape.

If all the teachers meet this responsibility as they should, two years of formal English study in the high school, in addition to eight years in the elementary schools, though not all that might be desired, would be sufficient; and if the teachers do not meet this responsibility no amount of formal English study will make correct writers and speakers of the majority of the children.

THE SEQUENCE OF SOCIAL STUDIES.

The sequence of social studies includes community civics in the ninth grade, ancient and medieval history in the tenth, modern history in the eleventh, and American history and civics in the twelfth. Elementary sociology is also proposed as an elective in several of the curriculums for the eleventh grade, and elementary economics for the twelfth. As will be seen from the discussion in Chapter VI, on training in citizenship, this line of studies, with the exception of ancient and medieval history, is of fundamental importance in the education of every citizen of our country, and especially in the education of those who are to be leaders. Yet until recently history and the other social studies were regarded as of minor importance and were either very generally neglected or usually were taught by such dull and lifeless methods that they availed little as a force in education. Now, since the disturbing revelations of the Great War, we are wide-awake not only to the importance of the social studies, but to their vital necessity in the program of socialization and Americanization that we know we must carry out if we are to save our American democracy for the part it must take in the future of the world.

"Community civics" is a new term in education, and perhaps needs explanation. It is a study of community association and life, especially of the local—the child's own community—but not of this exclusively. The child knows his local community best, perhaps, and can best be awakened to his social and civic relations through first-hand contact with its cooperative activities; but he is also a member of the State and the National community which include the local.

The aim of the study is, frankly, training for and in citizenship. It is designed to lead the pupil to realize the significance of the elements of community enterprise and welfare in their relations to himself as an individual and to the communities, local, State, and National, of which he is a member or cooperating unit. It aims to inform him of the social agencies, governmental and voluntary, that exist to obtain and secure these elements of welfare. Finally, it attempts to make him recognize his own civic obligations—what he must do for the community in return for what the community does for him—so that he will discharge these obligations in an unselfish and patriotic manner. It is thus seen that community civics is a concrete study of the cooperative activities of the local community, the State, and the Nation rather than an abstract study of the machinery of government. The controlling idea is to have the students learn cooperation for the common good by cooperating for the common good, and actively participating in the community enterprises that are going on around them.

The topics of study include individual, home, and community health and sanitation; protection of life and property; public recreation; parks and playgrounds; public education; city planning and beautification; wealth; communication; transportation; immigration and emigration; charities and correction; and, finally, a systematic study of vocations. The method of approach is to set the pupils to finding information for themselves, with the help of teachers, parents, friends, city officials, etc., starting with things that obviously affect them personally. For example, the topic of public health starts with the pupil's own health and how public health means simply that every individual be kept healthy and clean. His own obligation here becomes perfectly clear. He must keep himself clean and in perfect physical condition for his own sake, but not less for the sake of all. He must do all he can to induce others to do the same. Health laws exist for the sole purpose of accomplishing just this; so he must obey them and work actively to help in their enforcement. So he works personally not only to keep his own body clean and healthy and his own home and grounds safe and sanitary but helps actively in inducing others to do the same.

He learns about pure water supply for the city, about ash and garbage collection and disposal, about street cleaning, about vaccination and quarantines, about fighting the white plague and preventing its spread, and about how the agencies for doing these things are organized and financed. Thus the method of community civics includes four phases, which, though perhaps more thoroughly realized by those who are interested in promoting civic education than by those who are teaching other subjects, are really essential to good teaching in every subject, namely: (1) Personal and inductive approach to each new topic; (2 observation and collection of data and information by the pupils themselves; (3) realization and acceptance of personal responsibility as a result of the inferences and conclusions that follow inevitably from this intimate first-hand information; (4) habituation in the discharge of civic obligations through continued and systematic practice in recognizing duties and discharging them, especially in cooperation with others, for the common good.

It will be noted that in every curriculum presented either community civics or civic biology is required in the ninth grade because of the fundamental importance of this kind of civic training. Civic biology teaches the same things in a similar way but with the scientific principles more in view than the political and economic. Both serve the same purpose in civic education and training, but the latter appeals more strongly to those who have pronounced scientific interests, while the former appeals more strongly to those whose interests are most prominently social and political. Instead of offering one or the other it might be better to run them parallel—one three times per week and the other two during the first semester, and the other three times per week, and the one two during the second semester, thus making one unit of the two subjects combined. Whether this would be better can best be decided by trial and comparison. In any case the teachers of the two subjects should confer often and cooperate closely.

Ancient and medieval history, from the standpoint of civic education, is of use chiefly in throwing light on modern history by showing up the contributions of ancient peoples and their civilizations to our modern social organization, culture, and political life, and it should be taught with this end prominently in view. The rise of the races from primitive savage life through the nomadic and pastoral stages to the city state, with its trades, industries, and commerce, its centralized government, its architectural and engineering projects, and its dependence on the surrounding agricultural districts, should be clearly brought out. A very brief treatment of the Egyptians, Babylonians, Assyrians, and Phoenicians will suffice for this. Then the special contributions of the Greeks, the Jews, the early Christians, and the Romans to our modern ideals and civilization should be brought out in studies of these ancient nations and of medieval Europe.

Until quite recently it has been customary among history specialists to advocate four units of history for the high school: (1) Ancient history, (2) medieval history, (3) modern history (with emphasis on English history), and (4) American history (sometimes, but not too often, with civics). Previous to this period the units were general history one year, and American history and civil government one year. Neither of these plans was satisfactory, for history was studied for information as a record of past events or for a fictitious "mental discipline" rather than as a means of understanding our present social organizations and movements in the light of those of the past that are related to them.

The recent movement to make history a basis for intelligent interpretation of the events, developments, and institutions of the nations of to-day rather than a record of past military and political events has resulted in discarding much that the old textbooks contained and introducing much fresh material of recent discovery about the struggles and the social, intellectual, scientific, industrial, and artistic achievements of the world's peoples. Also less attention is given to consecutive chronology, and more to telling continuous stories of these elements of racial and national life as they are related to present national conditions, achievements, and aspirations.

The division between ancient and modern history now tends to be made at about 1700 A. D. rather than at the time of the Renaissance and Reformation, as it often was formerly.

Examination of the various curriculums that we have presented will readily reveal that to give all the training that is desirable in social studies is impracticable, because this would necessitate the omission of other elements, some of which are too important to be left out. Hence we have here indicated as a minimum or constant two units—i. e., modern history (eleventh grade) and American history and civics (twelfth grade). To this is added community civics (ninth grade) unless civic biology is chosen instead. It is not so necessary for every student to spend a year on ancient and medieval history as it is to spend that amount of time on modern history—so the former is made optional or elective while the latter is required for all students excepting in one curriculum.

The unit in modern history should be begun with a brief study, of about four weeks' duration, of the most significant factors in ancient and medieval history that have influenced modern history. Only a sketchy review of the salient features of ancient oriental, of Semitic, of Greek, and of Roman progress, and their permanent influences should be attempted; but clean-cut references should be made to these influences in the later study at the points where their effects are most easily perceived.

Certainly, after the revelations of the past four years, no one will question the justification for requiring every student in high school to spend at least a fourth of his time for one year on the history for the past two centuries of those world nations with whom we have become so intimately involved. Neither is it believed that any intelligent person would question the wisdom of requiring of all pupils a unit of American history and civics in the last school year, as in fact is now done in the Memphis Central High School. The elective units of elementary sociology and elementary economics in the eleventh and twelfth grades need no justification, as they have established both their feasibility and their worth in many good schools. Surely no one will deny that it is better for the future leaders of our communities, who may not go to college, to get their ideas of sociology and economics from high-school books and teachers. Better that they get them from this source than from the soap-box orators on the street corners, or from the daily newspapers.

THE NATURAL-SCIENCE SEQUENCE.

The natural-science sequence, here recmmended, consists of civic biology (ninth grade), general geography (tenth grade), physics (eleventh grade), and chemistry (twelfth grade). This represents a departure, but not a radical one, from the sequences that are most common in the high schools of the country. Physics and chemistry for the two upper grades are the courses given in nearly all of our high schools, including the Memphis Central High School, so nothing need be said in justification of the position given to these. The sequence for the first two high-school years has varied widely over the country during recent years and there is at present no common agreement. For many years until lately physical geography, or "physiography," was taught almost universally in the ninth or tenth grade, with the emphasis on the origin, life history, and distribution of land forms (plains, plateaus, mountains), on physiographic processes (elevation and subsidence of land areas, volcanic action, erosion, etc.), and on the atmosphere and the oceans. It did not give satisfactory results, and it has been gradually replaced by either "general science," as in the Memphis Central High School, or by civic biology. We believe that "general science" belongs in the seventh and eighth grades, and that it should be taught by teachers who are properly trained and competent to handle it. Civic biology is the science study most needed in the ninth grade, and is admirably adapted to the interests, capacities, and needs of pupils of that age. It also forms an admirable introduction to the more difficult and usually more highly organized science courses of the three upper years. More important still, if well taught, it imparts the information and arouses the interest that every good citizen should have concerning the vital biological problems that daily press on every community for solution, and if given in the first year of the high schools, more of the pupils will come under its influence than if given in any higher year.

Civic biology, like community civics, is a recent name in school terminology. Its content is not yet standardized and probably never will be; for this content is somewhat different in the city from what it is in the country, and it also varies considerably according to the kind of region in which the pupils live. It is somewhat different in the Southern States from what it is in the Northern; and is still more different in Utah and Nevada from what it is in New York City or in New England. It gives the kind of knowledge that every citizen should have in order to understand his own body and guard it against injury and disease, and to keep mind and body clean, wholesome, and efficient. It also gives the kind of knowledge and training that makes one acquainted with the plant and animal forms that are most necessary and useful to the people of the community, and what must be done to conserve them, improve them, and make the most economical use of them. But there are animal and plant forms that are tremendously destructive to human life and health and that destroy each year untold millions of dollars worth of food products and other vegetable and animal life. Civic biology gives knowledge of the life histories and habits of these destructive plants and animals and of the methods of community cooperation that must be adopted to exterminate them.

> * * * Enough is already known to make living well-nigh ideal and the world almost a paradise, if only *enough* people knew. In how many of our civic units does every citizen know enough to conserve effectively the valuable bird life, the trees, the soil, the water on his own premises, to exterminate the rats, and English sparrows, the flies, mosquitoes and San Jose scale, the hookworms, diphtheria and tuberculosis germs? If every individual knows these things, in how many communities do all the people know enough to cooperate—to work together with efforts so turned and planned that the good work of one, or of all but one shall not be rendered vain by the failure of someone else to do his part? * * * The measure of our present need is seen in the wastage and loss that is streaming through our ineffectual defenses—that 500,000 valuable lives sacrificed annually to the currents of preventable disease, along with the several billions of dollars worth of foods and other property swept away by rats, insects, weeds, and fungi. How *much higher must the cost of living soar before we begin to wake from the dream that we are a scientific and efficient people?* * * * Cooperative good will is the essential idea in civic biology, as it is in the progress of civilization itself. This means that *civic biology consists of all those problems whose solution requires cooperative effort.* In the nature of the case we can not control many of the living forces of nature by any amount of uncoordinated individual effort, any more than we can turn back the ocean tides by haphazard sweeping with brooms. The problem of civic biology, therefore, is to make it possible for every one to know what these forces are, for good or

for ill, and to understand how to do his part for his own good and that of the community. Cooperative building of the defenses offers our only hope of success; *and our education needs to be so organized that every citizen shall know enough to stop a breach the instant he sees it.* [From the preface to Hodge and Dawson's *Civic Biology.* The italics are ours.]

The above quotation makes the nature and tremendous importance of civic biology as clear as daylight and justifies the place we have given it. Is there any question in the minds of those concerned in the findings of this survey that this vital study should replace the present relatively ineffective course in "general science," and that every boy and girl who enters the high schools, white or colored, should study either this or community civics?

For the second unit in the natural science sequence we have proposed the adoption of general geography. This in the Central High School would replace the present second year course in botany and zoology which is not functioning effectively there.

Botany and zoology, or either of them alone, is found as a unit course in this grade in many schools, and nothing is to be said against such a course if effectively taught. However, if the course in civic biology be adopted for the first year and taught by an expert, as we recommend, the pupils will get from it a much more vital knowledge of those portions of botany and zoology that are most necessary and useful to the community, and will not be obliged to leave school without that fund of practical geographical knowledge and training of which no intelligent citizen should be destitute. There can scarcely be a doubt, especially in a great trade center, which Memphis is destined to be, that such a course in politico-economic geography, as is here recommended, should be a part of the educational equipment of every high school pupil. An understanding of such geography, based on an intelligent comprehension of the elements of physical geography, is necessary to a clear grasp of the movements of history; and the history teachers should have and make use of such knowledge in explaining these historical phenomena; but such incidental knowledge of geography as may thus be gained is not enough. For any thinking person who has tried to follow in the newspapers and magazines the world important events of the last four years, is it possible to doubt that the geographical knowledge that we Americans provide in our high schools is woefully inadequate? We, therefore, recommend that such a course in general geography as is briefly described below be offered in the second year of all curriculums, as indicated.

Such a course should start with the physical geography of the Memphis district. Problems of information for the pupils to work out should be set up by the teacher in connection with the city water supply, drainage, sewage disposal, roads, railroads and waterways, the rocks, soils, and economic products of the Memphis district; its climatic conditions of temperature, prevailing winds and rainfall: its farm, forest, and mineral products, and the means by which these products are gathered, transported, and marketed. These problems should lead up to the more general problems of physical geography, such as the evolution of the more important types of plains, plateaus, mountains, river basins, and shore lines through the operation of the three great physiographic agencies, namely, elevation and depression of the earth's crust, volcanism, and the wearing down or building up of the surface because of weathering processes and the movements of water and ice.

A study of climatic conditions in the Mississippi Valley should lead outward in like manner to a study of the prevailing winds and distribution of temperature and moisture in the different zones and in the different physiographic provinces or regions of the world. Also there should be a brief study of the oceans and shore lines, especially in their relations to climate, to food supplies, and to the occupations of peoples and their trade and political relations with one another. During all this work whenever a locality is studied as a physiographic type, it should be located by the pupils on a wall map with reference both to the physiographic region or province and to the political division in which it belongs. Throughout this study of physical geography and the studies in commercial or politico-economic geography for which it is to lay the groundwork, locational geography should be an ever-present feature. The student should be drilled with physical and political wall maps, blackboard outline maps, and seat maps in locating cities, farm and forest areas, rivers, harbors, trade routes, typical physiographic features and significant physical and political boundaries, until they know where the important and significant features and places of the earth are and how to reach them by passenger and freight routes. They should also be drilled on the comparative areas, populations, distances, and economic wealth of the most important regions, countries, and cities, until they really know something more about them than their mere names.

Following these studies of local, causal, and regional physical geography, and based upon the knowledge gained in them, there should be a study of politico-economic geography. This should not be the dull and spiritless droning over bald facts and statistics (most of them long out of date) that is characteristic of most of the textbook courses in "commercial geography" that are given in high schools. It should start with the principal industrial products of Memphis and the Southern States, namely, cotton, lumber, corn, and live stock, and should show where, how, and under what conditions they are produced, transported, bought, and sold. It should show the value of these, both economic and social, and how they are transformed from raw materials to finished products. It should show what are the by-products of the manufactures of these raw materials, their relative values, and the methods by which they are extracted, and to some extent the physics, chemistry, and mechanics that underlie all these processes of manufacture and conservation of values.

Furthermore, having learned from the study of these home products the principles and methods of study that underlie economic geography, the pupils should be led to apply them to wheat, coal, iron, building, stone, road materials, and the other great commodities produced, distributed, and consumed by the people of the United States.

Then there should follow a study, as extensive as the time permits, of the economic geography that underlies our manufactures and foreign trade, including a study of the great world-trade routes and the conditions that lead to international commerce and political relations. As a final review, one of the best elementary textbooks in political geography should be gone over rapidly with reference to the political boundaries and the economic and commercial conditions and interrelations in England and her dominions, France, Russia, Germany, the Balkan States, China, Japan, and the Central and South American States.

Throughout these studies of politico-economic geography constant reference should be made to such geographical sources as the United States topographic maps and other publications of the Geological and Coast Surveys, the census reports, consular reports, the Statesman's Yearbook, the World, Times, or Tribune Almanac, atlas, gazetteer, and the publicity materials issued by railroad companies and various chambers of commerce. This will insure that the information obtained is up to date, and it will also train the students to get needed geographical information for themselves, which is far more important.

General geography, then, is not home geography, or locational, or physical, or causal, or regional, or political, or economic geography; but it embraces the most essential and vital features of all of these—hence the name. It grows very naturally out of either community civics or civic biology, which we recommend should precede it in the ninth grade. It prepares the way for an appreciation of modern European history and American history, which we recommend should follow it in the last two years. It also prepares the way for sociology and economics, proposed as electives in the last two years. It has been here classified as a natural science; but it is just as truly a social science.

In the home economics, music and art curriculums, household physics and chemistry appears in the eleventh grade science block. This name is hardly appropriate to what is intended, but has been selected as likely to give the uninitiated a better idea of the nature of the proposed course than would "lessons in physical science," or "projects in physical science," which would be technically more accurate. The intent is to present a selection from the facts, phenomena, and laws of both physics and chemistry that are most likely to be appreciated and needed by the types of pupils who enroll in these curriculums. On the physical side the pupils would undertake problems and projects involving the simplest and most elementary mechanical principles and devices in common use or easily observable, such as the following: The principles of center of gravity, levers, composition and resolution of forces, sewing machines, clocks, watches, pumps, and household plumbing.

The course would include the physical principles underlying household heating, cooking, ventilation, the electric light, bells and annunciators, phonograph, telephone, telegraph, musical instruments, the physical basis of melody and harmony, eye glasses, opera glasses, color phenomena, and shadows. The chemical problems and projects that would follow these or go along with them would involve such topics as the following: The common metals, and their oxidation, water and air, their composition and uses, flame and combustion, economy and heat values of fuels, oxygen, hydrogen, salt, chlorine, sulphur, bleaching and disinfecting agents, carbon, carbonic acid and the carbonnates, nitrogen and phosphorus and their relations to soils and plants, matches, the commonest acids and bases and their property of forming neutral salts, photography, the hydrocarbon series and their most common derivatives, starch, sugar, fats and proteins, and their value in foodstuffs, alcohol, vinegar, soaps and laundering, mortar and cement, inks, dyes, paints, tanning, testing textiles, removing spots and stains, useful and harmful drugs. There would be no attempt to expound the advanced theories and physical chemistry. A scheme of review and organization of principles should be carried on throughout, and especially at the end of the courses. By this means the large amount of physical and chemical knowledge, obtained through the problems and projects and organized about these as centers, may be reorganized for permanent retention and future use, according to the customary classifications of physical and chemical treatises.

Such a course of projects should be planned primarily to meet the interests and needs of the pupils pursuing it, but should by no means be allowed to degenerate into an aimless smattering of superficial information. It should be taught by a teacher who is a trained physicist and chemist and who knows how to get good, sincere, stiff work of the pupils and to ground it on solid physical and chemical principles, inductively approached and thoroughly apprehended. It should involve at least one double period or two single periods of individual laboratory work per week.

This course should be of very great value to the pupils who choose the curriculums in which it appears.

The fourth science unit in the art curriculum is largely self-explanatory. It is intended to give the pupils some definite information and experimental experience with the processes by means of which art objects are reproduced. It would therefore treat of lithographing and hand engraving, the technic of printing, etching, photography, photoengraving, color photography, and the three-color printing process. Experiments illustrating the principles underlying these processes would be made by the pupils, and they would be given practice in some of these forms of reproduction, not that they might become skilled workers in these arts, but that they might understand and appreciate them either from a cultural or a prevocational standpoint.

Agriculture and botany and forestry are inserted in the twelfth grade science block of the commercial curriculum as alternatives to chemistry. The findings of the industrial investigator of this survey show clearly that very large commercial interests in Memphis are distinctly concerned with industries whose development and expansion are dependent on these sciences, and hence many of the youth who are training themselves for a commercial career should be well grounded in these sciences. It seems wise to allow a choice among the three, so that special interests and aims may be provided for. For a boy who expects to become a salesman of machinery, automobiles, tractors, or the like it would be wise to choose machine drawing and machine-shop practice instead of the twelfth-grade unit of science, providing he has taken extra part units in manual arts in sufficient amounts to prepare him for it.

The proposed sequences in commercial subjects, in manual arts, and in home economics do not seem to require comment, as these are mostly such as are in successful operation in many of our best schools.

The four-year major sequence in music will be discussed in Chapter VIII.

The four-year major sequence in art should consist of free-hand drawing, with the principles of form, proportion, and perspective of color and of design.

There should be some opportunity during the first two years for work in clay modeling, in order to bring out clearly the relation of light and shade to form.

THE SEQUENCE OF APPLIED ARTS.

During the last two years many of the pupils will begin to find out their special aptitudes and they should be given rein to work along lines in which their chief interests lie and in which they may hope to produce work of commercial value. So it would be entirely within the proper scope of the high school to offer for those who want them courses in pottery, art jewelry, wood carving, interior decoration, window dressing, printing, or bookbinding on a thoroughly practical or vocational basis. Such courses in applied art would enable pupils who had made meritorious designs to execute them in the materials and forms for which they were conceived.

The first aim should be straightforward practice in drawing and clear instruction in the principles of perspective; and the pupils should be kept at this with pencil until they can turn off an acceptable drawing of such an object as a chair or table in any position in 15 to 20 minutes' time. Much intensive practice should be required—not in long-continued work on one piece or at large scale, but in making many rapid sketches at small scale with a time limit assigned. The pupils' interest here, and the teachers' also, should be not in turning out a product for exhibition, but in acquiring ready skill by practice. With the right kind of teaching and with ordinary ability and reasonable diligence any ninth-grade pupil should reach the ability indicated by the end of the first semester with one hour's practice per day. In order to stimulate interest and develop initiative each pupil should be required to produce at home—or if in school, without help or suggestion from the teacher—a 20-minute sketch of some subject of his or her own choosing. This kind of assignment should be made as often as twice or three times a week. The first half year's work should close with lessons in the principles of grouping objects.

In the second half year practice should be given in drawing in "values" with the brush, and the students should now begin work in elementary design. The drawing lesson should occupy about three periods per week and the design lessons two periods per week. In every drawing problem from this time on throughout the sequence of courses emphasis should be placed on composition. In design the pupils should work with both pencil and brush until they have a clear mastery of the principles of repetition—sequence, rythm, and balance, both symmetrical and unsymmetrical, and of spot, line, and area composition in limited areas and in field. As in drawing, there should be much practice; and it should be guided by self-criticism, by class criticism, and when this is not sufficient, by criticism from the teacher.

After a good idea of values has been gained, work with water color should begin. The pupils should first practice making color scales in hues, values, and intensities. In teaching the theory of color, both the Newton color-disk mixtures and the pigment mixtures should be clearly demonstrated and the differences in results explained.

In the second year the free-hand drawing, color, and design work should be continued with progressively more difficult subjects and less simple motives. By this time, if not before, the pupils will begin to show specialized interests and will desire to work on special projects, either individual or cooperative. They should find the motives for these mostly in the activities of the school. For the beginner, at least, an attempt at design is futile unless it has a direct and obvious use and is in harmonious relation with the surroundings in which it is to be used. It should be a part of a decorative scheme in which the unity and harmony of the whole is preserved. A design for a table cover, for example, must be adapted to the size, shape, color, and texture of the material on which it is to be executed and the table cover must be suited to the size, shape, color, and general design of the table on which it is to be placed. Both in turn must be in harmony with the nature and purpose of the room and all its other features and decorations. Since all these things require supervision and expert criticism, it is better then that projects in design—at least until very good judgment has been developed—shall center in the school and enter, as far as possible, into the cooperative life there. So such things as folders, covers, notebooks, booklets, school calenders, posters, programs, invitations, announcements, the school magazine, the furnishings of rest rooms, trophy room, committee room, domestic-science dining room, auditorium stage, and so on may furnish motives in plenty for all sorts of designs, both individual projects and also cooperative projects, like the furnishing of a room, in which each individual designs one article and the whole group work together on the general motive and harmony of the scheme.

During the second half of the second year the pupils should begin a series of systematic lessons in mechanical perspective and simple projection drawing, to be carried along with the free-hand drawing, color, and design work.

Thus, pupils who have designed articles of furniture, for example, may make perspective and working projection drawings for them, to be executed either by themselves or by other pupils in the school cabinet shop. For the last two years the drawing, water-color, and design work will be continued, the projects becoming more individualistic and varied and also more mature as the pupils develop. The pupils will be encouraged to strive for the production of material that will stand the test of professional criticism or come up to commercial standards of value. Costume design, of course, will furnish motives for the girls in the dressmaking and millinery courses.

Besides the full unit four-year sequence in art, the various curriculums contemplate a four-year part-unit sequence of one, two, or three lessons a week, which may be elected in addition to their regular four units. Obviously, the progress of such pupils will be along similar lines, but they will do less work. They should be handled in sections apart from those who major in art and allowed to progress as fast as they profitably can.

In connection with these part-time offerings, there should be a course in art appreciation, in which pictures and lantern slides are generously used to illustrate the best types of artistic production, including architecture, landscape gardening, and city planning and beautification. An inspiring outline of suggestions for such a course is given in Bulletin No. 5, 1916, of the department of public instruction of the State of Ohio, Columbus, Ohio. Kelly and Mowll's Textbook of Design (Houghton Mifflin Co.) gives some excellent suggestions in that field.

An outline of the aims and methods of instruction, and of the types of work done in the art department of the Central High School was supplied by the teacher of art. The teacher was unavoidably absent while the high school was being surveyed. The observer visited the room, examined the work of the pupils, and talked with them at some length. In this manner, and by study of the teacher's outline, the conclusion was reached that the work is well planned, and is similar in its general features with the sequence of courses suggested above. The results of the pupils' work indicated very competent and enterprising instruction; and the very evident interest with which the pupils were attending to their work during the absence of the teacher indicated their appreciation of the instruction and ability to profit by the training that they had been receiving.

If one might venture a criticism on the teacher's outline it would be that too many mediums are used in the early part of the course, and the types of subjects seem to be introduced in too great variety near the beginning. All of it is good; but may not a tendency toward confusion and superficiality be thus brought about?

The art department is evidently functioning so well in the case of the relatively few pupils who are enrolled in it that it seems unfortunate that it does not reach a larger number of pupils than it does. We believe that definite steps should be taken to give this splendid department more publicity in the school and to attract more pupils into it. We believe that the adoption of the proposed art curriculum would have a marked influence in this direction. Such an expansion of this department as seems desirable would necessitate the employment of an additional teacher and an increase both of the room space and the equipment.

III. HIGH-SCHOOL TEACHERS.

THE DIFFICULTY OF MEASURING WORTH.

The task of justly and fairly evaluating the service and influence of teachers is one of very great difficulty. We can measure potatoes or cattle in terms of pounds weight. We may express their food values in terms of percentages of essential food constituents, such as proteins, fats, carbohydrates, mineral salts, and water. We may estimate in calories the amount of energy they will supply when used as food in the human body, and we can estimate with accuracy their value in the market in terms of dollars and cents. We have no such definite and universally recognized units in which we can express the value of teachers' service. Our teachers, through the influence of their characters and the results of their methods are daily bringing about changes in the brain cells of our children which form the habits and fix the ideals that control their conduct now, and will largely determine their characters, their influence, and their success throughout their lives. Yet who can measure the influence of a teacher? There are elements in the make-up of a teacher that elude analysis, and that so far as our present knowledge goes can not be evaluated. Yet everybody knows that some teachers are better than some others, and that most of them might be much improved if the essential principles of efficient class management and effective instruction were better understood by them, and were applied with more careful thought.

Numerous attempts therefore have been made to analyze the essential qualities of merit in teachers in order that intelligent judgment might be used in determining the questions relative to their retention, promotions, and salaries; and one or another of these analytical tables or score cards has been used by various supervising officials in judging the status of members of their teaching staffs.

The oldest device is the teachers' certificate or license to teach. This certifies that the holder is of good moral character, and states the percentage marks obtained by him in written examinations set by the board of school examiners, in various subjects, knowledge of which is assumed to be essential. The average of these percentages is assumed to be a measure of his scholarship. The State school laws and the rules of the local board of school control specify how and by whom the examinations shall be conducted, and what shall be the subjects and the minimum standings in them that shall entitle applicants to certificates of various grades. But scholarship alone does not determine the difference between a good teacher and a poor teacher, although it is one of the most essential factors. Also the fact is notorious that teachers' examinations do not result in accurate measures of teachers' scholarship. In most States the teacher's license is about the last thing in which the superintendent places confidence in estimating his or her value to the service, although in every State he must see that she has one before he can legally place her on the pay roll.

A better measure of a teacher's scholarship, though by no means an infallible one, is a diploma and degree from a standard university, college, or normal school, which certifies to graduation from a four-year course of training beyond graduation from a standard high school, including special training in the subjects the candidate is to teach, and a certain minimum amount of training in the principles and methods of teaching. Thus the North Central Association of Colleges and Secondary Schools admits to its accredited list only such secondary schools as require of all their teachers graduation from a college equivalent in standing to those which are members of the association, and including 11 semester hours of professional training in education, or the equivalent, as judged by its inspectors. The Southern Association of Colleges and Preparatory Schools, at present, seems to find it impracticable to enforce so high a standard as this within its territory, and admits to its accredited list schools three-fourths of whose teachers are college graduates or the equivalent. In the State of California teachers are not employed in the high schools unless they hold a master's degree from a standard college, representing five years of training beyond graduation from an approved high school. Such requirements, unless school authorities are able to evade them, make certain that high-school teachers shall have had a certain minimum amount of training that is essential to successful work; but training, though it usually implies scholarship, does not always guarantee it; and it does not guarantee that the recipient has initiative, leadership, technical skill, and other qualities of a successful teacher.

Accordingly, in addition to scrutinizing the evidences of their training, the problem of evaluating the work of the teaching staff involves observing the teachers at their work and attempting to compare it with some standards that have been set up and for which some authority or validity can be claimed.

In attempting to do this those who have made this survey have been subject to the same difficulties that embarrass all supervisors of teachers owing to lack of recognized standards for measuring the work of high-school teachers. Very few standardized tests have been devised for high-school work; and the validity of those which have been used is not by any means yet established. Furthermore, the time at our disposal was too short to admit of the use of such tests as have been tried elsewhere; and we were still further embarrassed by the fact that before the observation of the high-school work began the regular work had closed, and all or nearly all the classes were engaged in reviewing for the final examinations. Within the limitations imposed by these conditions, then, only one way seemed feasible for evaluating the work of the teaching staff. This was to visit as many classes as possible to observe such teaching work as was going on, to question both teachers and pupils as to the aims sought and the methods in use, and then to point out both the features that are worthy of commendation and the features that are faulty, indicating such remedial measures as would seem likely to be both feasible and effective. Quantitative evaluation of the teaching work and comparison with that of other systems seemed to be out of the question under the circumstances.

A STANDARD OF TEACHERS' QUALIFICATIONS.

It was necessary, therefore, to select some definite standards of teachers' qualifications, and so define them that their meaning could be fairly well understood and agreed on. With this done it would then be possible for the observer to indicate the qualities in which the teachers seem to excel, and those in which they seem to be deficient.

The statement of standards that was chosen is one of a number that have been somewhat widely published during the last few years. Its history and the proposed method of its use are described in School and Society (Vol. IX, June 21, 1919, pp. 748–756). According to this statement there are six major qualities of merit in accordance with which teachers and their work can be fairly and conveniently judged. These are as follows: (1) Personality; (2) intellect and scholarship; (3) technique; (4) pupil responses; (5) cooperation; and (6) room conditions. Each of these major qualities is analyzed into from three to six factors, the meanings of which are carefully defined. The ultimate intention is to express the relative values of these factors of teacher merit in terms of numbers, and to use the statement of standards as a score sheet by means of which teachers may be scored and ranked from highest to lowest according to their value in the service; but the factors have not yet been satisfactorily standardized and so these factors of merit will here be used only as the basis for a qualitative estimate of the teachers' work. The method adopted is to take the major qualities in turn, with its factors and their definitions, and to state, in the case of each, how well the teachers observed appear to measure up to it.

To what extent do the teachers measure up to these standards?

I. PERSONALITY.

1. *Appearance.*—Comeliness, cleanliness, neatness, tastefulness, and appropriateness of attire.
2. *Voice.*—Efficiency and agreeableness as to rate and distinctness of enunciation, and as to modulation (loudness, pitch, and tone quality).
3. *Poise: Self-command.*—Dignity and grace of posture and movement, self-control, and confidence.
4. *Vigor.*—Health, buoyancy, enthusiasm, wholesomeness (physical, mental, and spiritual), initiative, and originality.
5. *Character — Humanity.*—Openmindedness, tact, kindliness, sympathy, cheerfulness, optimism, sense of humor, integrity, justice, loyalty, devotion, and morality.
6. *Leadership.*—Resourcefulness, success in class organization and management, success in securing loyalty and cooperation, success in developing self-direction and self-control, ability to arouse individual and group initiative and endeavor, command, and disciplinary ability.

With regard to the first five factors of personality, the teachers of Central High School average well. They compare more than favorably with the teachers of other large high schools. A very few might improve the quality and efficiency of their voices; but as to this factor nearly all make themselves distinctly heard, and at the same time preserve a refined and agreeable tone quality.

All of them have poise, courtesy, and dignity of mind and manner, and many of them have distinctive charm. These qualities show themselves in the relations of the teachers with the pupils, with whom they are on the best of terms, and whose respect and confidence they seem without exception to have. Friendliness and mutual courtesy between teachers and pupils was the rule, and no exceptions were at any time observed.

The sixth factor, leadership, includes qualities in which these teachers do not make so good a showing. They are undoubtedly successful in securing the loyalty of the pupils to the school; and interest in the work is plainly evident; but in almost every class observed there was more or less lack of efficient organization and class management. The pupils as class groups do not carry on the work of the recitation in an orderly and effective way. They interrupt one another, they interrupt the teachers, and many of the teachers too frequently interrupt the pupil who is reciting. In practically every class, excepting those in which written compositions were being read, or topical recitations or oral compositions were being delivered, these interruptions were the rule rather than the exception; and in the greater part of the recitations the pupils showed little or no self-restrait. Anyone who wished to say anything or ask a question did so on the impulse; so that all seemed to be talking at one time. With this condition, clear thinking, and adequate exposition of the main points of the lesson in clear-cut, logical order is practically impossible. There was abundant evidence of individual initiative, but it was not controlled and directed in such an organized way that each individual had an opportunity to make his contribution or ask his question without interruption. Consequently the contributions and questions by the pupils failed in most cases to receive due consideration; and the main points of the lesson were not clearly brought out. The work was not so organized and conducted that the pupils could cooperate effectively as class groups. Group initiative was not well developed.

These interruptions were not caused by any inherent lack of good will or courteous intentions, but were evidently due merely to lack of that self-restraint which is habitually exercised by persons who are trained to conduct conferences in an efficient manner. If all the teachers had the proper conception of what organized class procedure should be all such confusion and talking at cross purposes could easily be avoided. They simply do not train the pupils in carrying on an orderly discussion; and they evidently do not realize how important it is to do so.

This lack of skill on the part of the teachers in organization and class management is a serious fault, and nearly all the teachers show it in greater or less degree. The remedy must be found in more and better supervision of the teachers, and in careful study by them of the principles of class organization and management, with the special aim of applying these principles in their class work. The discussion of these principles and their application should be made the order of the day for frequent teachers' meetings, until the management of the classes shall have reached a more satisfactory status. Skill in this factor of good teaching can be gained by attentive practice under close supervision.

II. INTELLECT-SCHOLARSHIP.

1. *General.*—Breadth and accuracy of information; grasp of relationships among facts; judgment of relative values; clear and logical thinking; ease and rapidity of learning; ability to reach sound conclusions and make prompt decisions.

2. *Special.*—Knowledge and skill in subjects taught.

3. *Professional.*—Knowledge of current educational theories and practices; application of psychological and pedagogical principles to methods used. Experience under effective supervision.

4. *Command of English.*—Clearness, accuracy and fluency of diction; absence of grammatical errors and colloquialisms; unity in grouping and subordination of ideas presented; vividness and force in choice of words and constructions.

5. *Scholarly ideals.*—Insistence on accuracy and thoroughness of knowledge and perfection of skills, and on clean-cut, logical thinking; socialized conception of educational aims and values; intelligent curriculum thinking.

As to native intellectual endowments the teachers of the Memphis Central High School would seem to average as well as those of other schools of its class, but as to general and special scholarship only 30 per cent were graduates of colleges of standing, while 20 per cent had had no college training whatever when elected to their positions. (See Chapter II.) This places this high school far below the high schools of most of the cities of the size of Memphis as to the average scholarship of its teaching staff; for in most of the large cities, no teacher of an academic subject can obtain a position in the high school unless he or she is a graduate of a reputable collegiate institution.

The high-school teachers who are not college graduates should be required to pursue summer courses in colleges or universities until they have at least met the requirements for the bachelor's degree, and no future applications for high-school positions should be considered unless the applicants are holders of degrees from colleges of good standing. This is the least drastic policy that will result in placing the Memphis high schools above reasonable criticism with respect to the scholarship of their teachers; and its adoption is recommended.

As to professional or pedagogical knowledge the average of the high-school teaching staff is distinctly low. This is indicated by the prevailing weaknesses in class management, and by the very general lack of skill in the technic of instruction, which will be discussed later. Both from testimony and from observation it is evident that effective supervision of instruction and intelligent guidance in the study of pedagogical problems have not been in operation in these high schools. Both of these features of administration are essential to the production of good individual and team work in teaching.

Concerning the fourth factor it was observed that all or nearly all of the teachers use clear, and fairly accurate English, free from grammatical errors; the cases were not wanting in which such colloquialisms as the use of like for as and different than for different from were observed. Such errors, of course, should be avoided. There is really no excuse for using any but the best of English in the classroom, for teachers, above all persons, should set the example for the children. Also as to unity in grouping and subordinating ideas to the main thought, the presentation by many of the teachers left much to be desired, and could have been greatly improved by careful planning of the lessons before giving them.

As to the fifth factor, high-school teachers in general are far less scrupulous and careful than they should be, and the Memphis high-school teachers appear to be below the average in this matter. Pupils will prepare their work with thoroughness, will perfect their knowledge, and will think methodically if the teachers invariably accept nothing less than this; but they will not do so unless the teachers habitually insist on it. They will follow the line of least resistance, and be content with careless and thoughtless work if they are allowed to get by with it. On the other hand, cases were noted here and there of teachers who were overzealous in the matter of insistence on accuracy of detail, even to the extent of nagging the pupils. The wise way, of course, lies between these two extremes. We do not mean to be understood that the teachers are generally without high ideals of scholarly work; for practically all of them showed in their replies to our questionnaire that they have them in a marked degree. The trouble is that they do not insist as constantly as they should that their pupils live up to these ideals. It is easy to do this kindly and without nagging; and the pupils generally like best and respect most those teachers who always hold them up to the best that is in them.

III. TECHNIC.

1. *Selection and organization of subject matter.*—Definiteness of aim; adaptation to pupils' interests, needs, and capacities; sequence; correlation; selective emphasis; use of problematic situations.

2. *Skill and judgment in questioning.*—Speed; consecutiveness; conciseness; stimulating quality; clearness of distinction between memory and drill stimuli and thought stimuli; treatment of answers; avoidance of common faulty types of questioning.

3. *Faculty in exposition.*—Illustration by examples and analogy; inductive approach; use of visual aids; proportion of questioning to telling; establishing connections with life situations; clearness of deductions; judicial treatment of evidence; definiteness and conclusiveness of lesson as a unit of instruction; balance and thoroughness of development.

4. *Motivation.*—Use of pupils' experience in inducing study, thought, practice, controlling ideals in school life, and enthusiasm for the work in hand.

5. *Economy.*—Avoidance of waste in time and effort; exclusion of irrelevant materials and processes; success in keeping all pupils actively employed on the lesson throughout the period.

6. *Assignment.*—Setting up the main lesson problems; making the significant stand out; indicating best methods of study; making requirements definite and positive.

A case of unusual merit in the first-named factor of the technic of instruction was found in one of the classes in English. The teacher had dictated to the pupils an outline of the points of excellence in the short story. The pupils kept this in their notebooks for constant reference in connection with certain short stories that had been selected for study. After reading each story as a whole, the pupils were to analyze it with reference to these points of excellence and prepare individual reports in which they gave their judgment as to the degree and manner in which the story assigned measured up to the standards set forth in the outline. It will be seen that this device meets the requiremens of good technic in every detail. A number of pupils who were questioned all testified that this way of working interested them and that as a result of using it they had become interested in reading good stories and had learned how to judge and appreciate them. It was learned that the English teachers had discussed this outline and method in their division meetings and that several of them were using it. It would have been just as effective and far more economical of time and effort if the outline instead of being dictated had been mimeographed or printed and distributed to the pupils. (See factor 5.)

Other notable examples of good organization and definiteness of aim (factor 1) resulting in strong motivation (factor 4) were observed in the classes in expression. In one of these a group of the pupils were engaged in rendering selections from a standard play, each pupil taking a part. The reading of the parts by the pupils was done with remarkable feeling and spirit and with excellent vocal interpretation. In stage parlance, they "got it across" to their classmates who constituted the audience, holding attention and interest throughout. The teacher kept herself in the background, but directed and controlled the work with consummate skill. There was a definite aim—the proper interpretation of the play. The teacher knew exactly what she wanted the pupils to learn and do. Questions and explanations were fitted to the purpose and circumstances. Things went forward in orderly sequence and there was neither lack of interest nor loss of time. The pupils showed training in orderly methods of attack.

The influence of the work in the expression classes extends throughout the school. In the English classes, for example, the observer found it easy to pick out pupils who had pursued the course in expression by the superior manner in which they delivered their reports and oral compositions.

This was verified in a number of cases by interrogating the pupils. Pupils who were questioned invariably showed enthusiasm for the work in expression and asserted that they worked hard at it. They must have worked hard and attentively, else they could not have done so well.

This leads one directly to raise the question as to why "expression" and "public speaking" should constitute distinct courses apart from the classes in English.

Why should not expression and public speaking be prominent, even dominant, features of the work in every year of the study of English composition and English literature; and why should not the instruction in this line be as efficient in every English class as in the classes in expression and in public speaking? Plays of Shakespeare were being read by parts in English classes. The purpose here should have been exactly the same as in the classes in expression and in public speaking. These are intelligent understanding and interpretation, the acquisition of tastes and appreciations for the masterpieces of literature through participation in their interpretation, and the formation of habits of reading the world's best literary productions for the wisdom, the beauty, and the ideals that they set forth. In these classes, however, the matter of interpretation received no attention, so far as the observer was able to notice.

In a few of the English classes, as we have noted, good types of work were being done, the best of it consisting of topical recitations and oral compositions; but in none of them had the instruction and class management reached the efficiency and inspirational power that was shown in the special classes in expression. This certainly ought not to be so. The standards for interpretation of literature in the literature classes should be as high as are those in the expression classes, and the teacher should be just as competent to get results in this line. If there is any reason at all for separate courses in expression and public speaking, it should be to give the finishing touches to pupils who wish to specialize in dramatics, pageants, public speaking, debates, and parliamentary procedure; but all of these things should find a prominent place in the English instruction and should be as efficiently taught to all pupils as to those of the special classes—at least, up to the point of discriminating and critical appreciation of good performance in these lines, and up to the point of intelligent personal enjoyment in the silent reading of literary masterpieces. There would be much gain and very little loss, if any, were the vivisection of prescribed "English classics" largely replaced by such work.

We are not saying these things to magnify the merits of certain teachers to the disparagement of others, for all are sincere and devoted to their work, but to make prominent a needed reform in the school. When there is such a difference in the methods and results of doing things that are or ought to be done for similar purposes, this difference should be made the subject of study, and supervisory machinery should be set in motion that will bring about better results. To this end the contrast has been set up, but it must not be inferred that the condition called in question is peculiar to Memphis. It prevails to a lamentable extent in very many of our best high schools, and when the public once awakes to a sense of how bad it is the public will rise up and do something. It would be much better for the school people to improve the teaching through competent departmental supervision before this happens, for when the public strikes it does not always strike with discrimination.

The evidences of a high degree of skill in the technic of instruction, such as we have just mentioned, are exceptional in the Memphis high schools.

In more than four-fifths of the class work that was observed there was little that measured up adequately to the standard enumerated under the six factors of technical excellence outlined above. Specifically, there was much lacking as to definiteness of aim, logical sequence, and the use of problematic situations in nearly all the work observed. There were many examples of faulty questioning and very few examples of really skillful questioning. As to organization, the prevailing type of procedure was to follow the textbook topics seriatim, with little or no rearrangement or selective emphasis. There was very little use of visual aids. Maps were very few and very seldom used. Pictures appeared rarely, and lantern slides never appeared, though inquiry developed that pictures are occasionally used by several teachers. There are five projection lanterns in the Central High School, but inquiries among teachers and pupils as to their use indicated that they are infrequently or never employed in most of the classes when they would be of very obvious utility. This is in striking contrast with two of the high schools in another city, not quite so large as Memphis, where the observer saw lantern slides, pictures, maps, and other visual demonstrations and aids to instruction in use in many of the classes during a two days' visit, and where a high degree of technical skill was shown in the work of nearly all the teachers.

EXCERPTS FROM FIELD NOTES.

In order that the reader may know on what kind of evidence the observer has based his judgments, some excerpts are here given from among a mass of field notes taken during his visits in the classrooms. In the original notes the happenings were taken down just as they came. Here they have been separated under the headings good and bad. Material that would identify individuals has been suppressed, so far as this was practicable:

1. *A mathematics class.*—Good: This teacher is forceful, stimulating, and careful. Pupils all good natured. Seem to enjoy the work, and are remarkably well poised. Teacher speeds up the pupils and holds attention. Bad: Talks too much. Changes questions, making several starts before getting the question out in a form that is clear and suits. Questions are a shower of words, where a few crisp words would be sufficient. Exactitude in answers not invariably required. Pupils not called upon to criticize faulty answers. Makes pupils do over again what they have already done correctly. Interrupts and badgers them unnecessarily, but they accept it good naturedly and do not lose their wits or tempers.

2. *A foreign-language class.*—Good: Careful pronunciation. Ready responses. Excellent interest and good will. Pupils evidently enjoy the recitation work and seem to have made good preparation. Bad: Teacher corrects the pupils' mistakes in the blackboard work, instead of having them pointed out by pupils and corrected by those who make them. Pupils respond in volleys with various answers to thought questions, no single answer being distinguishable. Result: Much confusion and loss of time and effort in an otherwise good recitation.

3. *A social study.*—Good: General features of the recitation very good. Development of topics by questions was clear and logical, though there was considerable lack of smoothness and consecutiveness in the movement of the lesson. Teacher asks many good thought questions and pupils think well. They enjoy thinking and there are many different points of view. This makes the recitation interesting. Opposing opinions are well weighed and questions are clearly settled as far as the pupils' knowledge admits. Teachers' explanations clear and well illustrated, especially by local and personal application that the pupils can understand. Bad: Teacher not very fluent; more embarrassed than pupils by presence of visitor. Pupils accept the visit as an interesting incident. Teacher permits pupils to answer in volleys and to interrupt one another, but this is far less frequent than in the classes of most of the other teachers. This is one of the very best teachers in the corps.

4. *An English class.*—Good: Nothing good that was worthy of special note. Bad: The pupils were given quotations from a standard drama. No attempt was made at interpreting these. No questions by teacher as to why they were selected. No questions asked as to the numerous problems of the play; hence no thinking was manifest. No questions asked by pupils. Teacher asks only questions such as, "Who said this?" "This was said by whom?" "When?" etc. Pupils might have got something from reading the play. Probably did, for they did not seem bored, but they certainly were getting nothing from this teacher at this time.

5. *An English class.*—Good: This teacher's voice is pitched too high, but she gets attention and keeps order. The interest is good. Bad: But the teacher does most of the talking. Like many of the others, she does not think out her

questions before uttering them; so she repeats with tiresome verbiage, i. e., "What do you mean by swashbucklers?" "What do you mean by that sentence?"

6. *An English class.*—Good: Excellent pictures from New York Times' Sunday supplement illustrating Shakespeariana, cut out and mounted on cardboard, were posted on walls with stickers (push pins are better). Pupils reading a play by part. Attention and interest good. Bad: The reading by most of the pupils was just fair. Some of it was very, very poor; but no questions were asked by pupils or teacher, and no comments were made. Good reading was passed without commendation and bad reading without any attempt to make the pupils do better. Questions should have been asked and suggestions made by pupils and teacher until the poor reader had caught the interpretation and spirit of the speech, and should then have been incited to try again and see if he could do better. This was done by the observer in one class, and the improvement in the pupil's second reading, after he had caught the real meaning of the passage, was so marked as to provoke enthusiasm on the part of the remainder of the class.

7. In another class in English, doing the same lesson under another teacher, there occurred nothing but this same procedure, some good, but mostly bad or indifferent reading, without comment, question, or suggestion. This teacher has the habit of starting a question three or four times before she gets it out in a form that is satisfactory to her.

8. *A supervised study period in mathematics.*—Good: Teacher's voice, presence, and manner pleasing. Speech efficient. Pupils ask questions freely. Their questions are direct and thoughtful. A list of problems was assigned at which the pupils were all working. Teacher cleared up difficulties when requested by the pupils. She worked economically by requiring attention from all when an explanation was asked by one which she thought all ought to hear. Her explanations were clear, direct, and concise. She classifies cases and directs attention to results obtained by similar methods in cases of the same class. This is an important factor of good method, especially in review work, such as this was. This was an example of very good supervised study work. Bad: However, she appeared to be helping the pupils too much. It seemed to the observer that she might have got them to do more for themselves by asking them questions that would make them think their own way out of their difficulties. Good: Pupils who were questioned said the teacher made them work hard, but they liked the study. Their answers to the observer's questions indicated that they had a very good knowledge in general of the work.

9. *A laboratory class in chemistry.*—Good: A fair proportion of the pupils were experimenting with good interest, attention, and efficiency. Some tended to be idle and somewhat indifferent; a few showed intense interest and very thorough knowledge of the subject. They wanted to come back next year and take a post-graduate advanced course. Bad: The class was too large for one teacher to handle well without an assistant. Student assistance has been tried, but here as elsewhere it is practically a failure. There was too much talking, noise, and confusion.

10. *A tenth-grade Latin class.*—A review of forms was going on. As a guide to organization a printed tabulation of all the forms of the parts of speech and the principle rules of syntax was used. Pupils said this was very helpful as a means of ready reference instead of a grammar book. It should be. By questioning the pupils the observer learned that the methods of studying Cæsar in this class were similar to those used in good schools elsewhere, but there was apparently a dearth in this room of good illustrative materials, such

as maps, charts, and pictures. The order was fair, but at times all talked at once—the most common fault in the school. This teacher was said to be one of the best.

11. *A class in a social study.*—Nothing that merited approval was observed in this class. The teacher's manner was not engaging. She seemed to be worried because the class was not getting over the ground faster and more smoothly. There was no evidence in her teaching that she had an adequate idea of the significance of the subject in the education of a citizen.

Her questions in the main were not consecutive, and had little relation to one another. There was an outline on the board, but this was purely factual and was being followed in a desultory way. The questions were all to elicit facts, and there was no selective emphasis. No relations among facts or events were sought out. The questions were very faulty. They were mostly long questions, ending with the word what. Pupils if at all bright could gather from the question itself just what was wanted in answer. The answers required were mostly single words or short phrases. There was no opportunity for the pupils to present evidence, draw inferences, or in fact do any thinking. They had to give the answer the teacher wanted to get. In one case certain pupils wished to argue as to some facts which they thought from the text were contrary to what the teacher wanted them to say; but instead of letting them find out the truth through thinking and reference, she promptly and effectually suppressed them. A good opportunity for training was thus thrown away. The teacher appeared to think there were so many facts to review and so little time to do it in that there was no place for thinking.

This was typical of occurrences in many other of the classrooms where the all-important idea was cramming up for the final examinations. Another type of question used by this teacher, and often observed in the case of others was a long statement followed by "Is it not?" or "Did they not?" The pupils of course were expected to look intelligent and answer, "Yes, ma'am."

TYPE QUESTIONS AND ANSWERS.

Here are some of the questions verbatim:

Teacher. The chancellor of the Exchequer was the same as what?

A pupil. The treasurer.

Teacher. And the treasurer does what?

Pupil. Takes care of the money.

Teacher. Yes; he takes care of the money; and these ministers made up what body?

Pupil. Curia Regis.

Teacher. Yes; Curia Regis, and what was the Curia Regis?

Pupil. King's court.

Teacher. Yes; it was a council of the king's court, and a king's court did what?

Pupil. Tried cases.

Teacher. Cases that concern whom?

Pupil. Kings.

Teacher. Yes; kings. Where did this Curia Regis meet? Where did they hold their meetings?

A class of eight or nine-year olds ought to make as good a showing with such methods and questioning with 20 minutes previous study as this tenth grade class did, and they would probably learn as little. No comment on such questioning should be necessary were it not for the fact that persons who go through the motions of teaching in this way pass for experts in so many of our schools of good repute. Most teachers who have fallen into the habit of using such ineffective and faulty types of questioning do not realize that their work is so bad; and if confronted with stenographic reports of their recitation, would scarcely believe that these reports were exact reproductions of what happened in their own classes. More or less of this sort of teaching is found in all cities, but in the Memphis High School it is much more prevalent than in other large high schools known to the observer.

TYPES OF FAULTY TECHNIQUE.

The following types of faulty technique are very common in the school and appear frequently in the observer's field notes. Not more than two or three of the teachers are entirely free from them:

1. The inverted question ending in what, where, whom, etc., i. e., "That was the beginning of what?" "We have this condition where?"

2. The statement followed by "Isn't it?" "Didn't he?" "Wasn't that so?" and the like, to which the pupils can only answer "Yes."

3. The question that can be answered by giving a name or other single word. For example, Teacher: "Then we found the Persians moving on to what next line of defense?" A pupil: "The pass of Thermopylae. They tried to stop them." "Teacher: "Who did?" Pupil: "The Spartans." Teacher: "Led by whom?" A pupil: "Leonidas." Many questions of a somewhat similar type can be answered with either "yes" or "no" and with nothing else. With such questions it is evidently a mathematical certainty that 50 per cent of the pupils' answers will be correct though they may know nothing whatever about the subject and answer only by guess.

4. The blank-filling question, in which the teacher makes the entire statement, excepting a word or two, such as the name of a person, place, or action, for which she makes a pause at the proper place. All the pupils have to do here is to supply a missing word now and then. Very commonly the right word is not given by the pupils and the teacher supplies it herself and then continues in the same way.

5. The false start, in which the teacher changes the form of the question either before or after she finishes it. In the case of one teacher (of English, by the way), the observer noted that she started a question four times before she got it out in the form in which she wanted it. This fault is very common in the corps, but two false starts are more common than three.

6. *Repeating answers after the pupils.*—This is supposed to be done in order to make the answer emphatic so the pupils will all remember it. It does not have this effect. It releases the one reciting from the responsibility of making the matter clear to his classmates and permits the class to lapse into reverie. Answers are often repeated by teachers because the pupils do not speak loudly and distinctly enough to make themselves heard. This is bad. It causes the pupils to form wrong habits and it obviously cuts down the efficiency of the recitation 50 per cent. Often the teacher says "yes" and then gives the answer correctly when the pupil has given it wrong without calling attention to the essential difference. This causes the pupil to learn soon that he can satisfy the teacher with any kind of answer so long as he uses a look and tone of apparent interest and sincerity. Here is an example from the class of a

teacher of public speaking, whose work and influence in many of its phases are excellent. It was noted down as a cross-section of a 10-minute portion of a lesson in which the teacher was doing practically all the work and the pupils little or nothing: Teacher: "Pretty apt to be what?" A pupil: "Friction." Teacher: "Pretty apt to be friction."

7. The hesitation question or statement, in which the teacher pauses at short intervals to think up the next section of the sentence instead of having it all thought out before beginning to utter it. The pauses are filled in by "ah," "eh," or "er." For example (again from an English teacher), "He speaks of—a-a-a-ah—he was fearful of disturbing his friend's equanimity." This type of hesitating or drawling delivery is characteristic of some teachers, and many who do not use it themselves permit it commonly in their pupils, who easily fall into the habit unconsciously from imitation of some teacher. Nearly all persons do it occasionally, but when it occurs frequently or habitually it becomes inexpressibly boresome.

8. *Allowing several pupils to answer a thought question all at the same time, instead of requiring each to take his turn.*—These "volley answers" are productive of nothing but waste and confusion. In answering memory questions, where there is only one good form of answer which should be fixed in memory, the pupils should be trained to give the answers in concert and keep exactly together. This gives every pupil a chance for attentive repetition, which is the necessary condition for memorizing. If there are 20 pupils in the class as in reciting a Latin paradigm, or a memory selection in English, or a principle in science, or a rule in mathematics, 25 times as much can be accomplished by this method as by having the pupils recite singly, and, therefore, if the teacher watches for the laggards and prevents them from shirking, it is 25 times as efficient for drill work. Teachers should carefully distinguish in their lesson plans between memory and habit work on the one hand, which requires drill and repetition, and thought work on the other hand, which requires a short time for reflection between the question and answer, and they should conduct the work accordingly.

9. Calling too frequently on a few willing and well-prepared pupils, and ignoring a majority who are ill prepared. This fault is very common and confirms these pupils in habits of laziness and inattention.

10. Leaving doors and windows open so as to admit disturbing noises from the halls or outside the building. Much disturbance was noted from this cause. Some of this could not have been avoided, but much of it might have been.

11. Allowing half a class to be idle while the other half is putting work on the blackboard.

12. Devoting one's self to a single pupil who may be having a difficulty and becoming temporarily unconscious of the existence of all the others, part of whom immediately become idle and another part mischievous. This fault is most common in mathematics and foreign-language classes when the greater part of all the pupils are at the blackboard. When difficulties are encountered by one pupil that are likely to be of interest to all, then the attention of all should be directed to these while they are being explained. If the time is to be devoted to supervised study all the pupils, or nearly all, should be working at their seats.

FACILITY IN EXPOSITION.

The observed evidences of excellence in factor 3 of technic, facility in exposition, were very rare in the recitation work witnessed. The teachers in action do not seem to measure up well to this standard. As a body, in the opinion of the observer, they would average distinctly below the high-school teachers of a dozen or more large cities where the observer has made careful observations. This is true in considerable measure also of factor 5, economy. As to factor 4, motivation, few special procedures or devices for this purpose were noted in class work; but many of the teachers in the questionnaire mentioned above told of excellent devices which they are accustomed to use and which would undoubtedly arouse strong interest and call out initiative. It is a matter of regret that space is not available in which to describe these. They make intensely interesting reading and would constitute a useful part of the report. We must be content, however, with saying that the behavior of the pupils and their attitude toward the work in practically every department of the school indicates that they are much interested in their studies, are anxious to contribute ideas to the recitation work, and show abundant evidences of individual initiative. They welcome opportunities to think, though too many of the teachers do not give them such opportunities as frequently as they should.

With regard to the interest and enthusiasm that the pupils show for their studies, this school ranks among the very best that the observer has visited. Hence in spite of the lack which has been noted of skill in the mechanics of class management and instruction, the teachers must be regarded as highly successful in arousing and holding the interest in their subjects and the enthusiasm for work that a very large proportion of the pupils so evidently possess. A great part of this must be due to the excellent spirit of genuine friendliness and helpfulness that the teachers show in their relations with the pupils in the classroom and outside the classroom. Nothing finer than this relation exists anywhere, and it can not be too highly commended. It must go far to make up for many of the defects that have been noted.

As to item 6 of technic, the teachers make a rather poor showing, but in this they are no worse than 90 per cent of teachers everywhere, if that softens the criticism any. The importance of a careful and helpful assignment of the next lesson is very little recognized among teachers generally, and it is very hard to make them realize how important this feature is, or to pay proper attention to it. Nothing but the most careful, patient, and insistent supervision will improve this factor of the teacher's work. There is no question, however, but that it should be improved.

IV. PUPIL RESPONSES.

1. *Efficient functioning of habits and skill.*—Habitual promptness and good form in all school work. Skill in the arts taught by the school, as reading, writing, drawing, calculation, manual arts, cooking, sewing, etc.

2. *Command of subject matter.*—Ability to recall and use knowledge; good lesson preparation; ability to interpret facts, phenomena, literature.

3. *Thinking ability.*—Recall of significant facts and ideas; selection of those relevant to a conclusion; getting and testing hypotheses; establishing conclusions, inductively and deductively; getting and using concepts of methodical procedure in thought and action.

4. *Expression.*—Clearness, grammatical correctness, precision and conciseness in use of English; good vocalization and bodily attitudes.

5. *Tastes and appreciations.*—Intelligent enjoyment of literature, art, and science as exemplified by choice productions.

6. *Impelling ideals, initiative.*—Evidences in conduct of the functioning of ideals of industry, thoroughness, integrity, fairness; spirit of inquiry and endeavor; tendencies toward originality and self-direction; evidences of the will to serve.

A considerable amount with reference to the quality of the teaching may be inferred from the quality of the work done by the pupils and the amount of training they show in their responses. Some experts in education would make this the only criterion of excellence in the teachers' work, and would measure it not at all by observation and opinion, but by means of objective and standardized tests in the school subjects.

The idea is perfectly sound, but at present it fails practically at two important points. First, as to high-school work, the few tests that have been proposed are as yet far from satisfactory, and it will be some time before thoroughly satisfactory objective tests have been developed in any considerable portion of the high-school subjects. Second, any method whatever of measuring the work of a teacher by what his pupils do, whether the latter be measured by objective tests or subjective estimates, assumes that what the pupils do is the result of the teachers' work and that only. It ordinarily takes no account of the pupils' native ability, of their native and spontaneous interest, of their previous training, and of the training they have been getting during the same time under other teachers, or through outside reading, or through contact with a stimulating home environment. These other influences may be fully as effective, either for or against a good score for the pupils in any quality or with any method of evaluation, as the instruction given them by the teacher under consideration. Hence those who would depend only on "measuring the teacher by the results of her work" are seriously in error.

This fact, that the teacher in the classroom is not wholly accountable for all that the pupils do or do not do in the classroom must be borne in mind while we are discussing this factor in evaluating the teacher's work. Nevertheless, very much of what the pupils do and how they behave in the classroom is the direct result of the methods of the particular teacher under whose control they are at the time of observation; and considerable weight should be attached to their behavior in the classroom as a measure of the quality of instruction.

As to factors 1 and 4, under pupils responses, the pupils of the Memphis Central High School do not, in the opinion of the observer, average conspicuously high; but they do rank much above the average of the schools that he has visited. A large proportion, though not by any means all, are habitually prompt in the various acts required; they carry themselves well, maintain good if not perfect bodily attitudes, are generally courteous and respectful, and very generally make themselves heard in recitations. Their answers to questions and their topical recitations are made in better English than the average of city high-school pupils, and very much better than the average of rural high-school pupils. Yet in this there is vast room for improvement in the great majority of them. It was not noted that the teachers generally took notice of faulty positions or faulty English when used by the pupils, and insisted on the correction of these faults, as obviously they ought to do. A few of them did, but by far the greater portion did not. As to the special skills taught by the school the pupils made a good showing, and seemed to average well up in comparison with those of other schools known to the observer. These pupils seemed to rank with the average or above in command of subject matter, though here in many classes it was difficult to guess how much they knew, because the methods of questioning by the teachers were so poor.

As to factor 3, thinking ability, excepting in the cases already noted, where the teachers' methods were unusually good or where the method of topical recitations was employed (this method was very well carried out wherever it was used), it must be said that the pupils had very, very little opportunity to show what they could do in the way of good thinking; so the observer had little chance to make a general estimate. Hence, in order to find out, he was forced to question the pupils himself in a number of classes in order to get a random sampling of the product. Wherever this was done the responses of the pupils were remarkably good. They showed that they were eager to think and express their thoughts if only they were given a chance, and they did think well and keenly. The eagerness with which they responded to questions and suggestions, intended to help them think their way through to a complete understanding of the matter under discussion, was most interesting. It suggests that in the Central High School there are sources of thinking ability and leadership for the solution of the future problems of a "greater Memphis" that are not being tapped and developed, and it seems nothing less than tragical. If the writer could get across one and only one message to the teaching staff of this school it would be, "Give these splendid pupils more chances to think and do not bother so much about making them memorize unrelated facts, and cramming them for final examination."

The principal weakness in the teaching in this line lies in the fact that the inductive approach is so little used in the teaching of general principles. In almost every subject and in science especially there is material for inductive reasoning, that is arriving at general principles through the prior consideration of particular facts, events, or cases. Every general principle should be approached in this way, enough particular concrete cases being considered and discussed so that the pupils can infer and formulate the general principle for themselves. Even mathematics, which is almost invariably taught deductively, the abstract principle being memorized first, and particular solutions being developed by reasoning deductively from them, is best taught inductively. Yet throughout the work in this, in foreign languages, and even in science, memory work was the rule and reasoning the exception, so far as was observed.

Concerning factor 5, the opportunities for observation were too limited to admit of very satisfactory judgments; but the impression was gained that the pupils are getting many very excellent opportunities for the development of taste for literature in the English department, but not as much as they should get because of the poor work already mentioned in interpretation. In the expression classes they are getting it in an ideal way. In the art classes, they are getting most excellent opportunities for the development of taste for beauty of line, form, color, and composition; but this department, through doing such excellent work is reaching far too few pupils. In science some tastes and appreciations are evident; but too few pupils are taking science work, and too few of these are being given opportunities of acquiring a taste for the best things in scientific experiments and scientific literature.

As to factor 6, the development of ideals, the observer arrived at the conviction that the school is conspicuously successful. If there is a body of high school pupils with a finer school spirit and finer ideals than are evident in the Central High School of Memphis, he has never seen it. That in so large a body of pupils a few may be found, whose physical, intellectual, and moral ideals as expressed in their conduct are not what they should be is very probable. Yet such pupils, must be very few and have very little influence on the whole body. (See also Chapter VI.)

V. COOPERATION.

1. *With official superiors.*—Cordial responses to directions; willingness to accept criticism or suggestion and profit by it.

2. *With colleagues.*—Working with colleagues for the common ends; sustaining cordial social relations with them.

3. *With community leaders.*—Activity in community betterment; participation in patriotic and charitable movements, church, clubs, etc.

4. *With pupils.*—Leadership and direction of approved student activities.

5. *With educational associations.*—Reading circle and other professional study; promoting and cooperating in teachers' improvement organizations and movements; reading and supporting professional periodicals.

The members of the survey commission have had occasions in plenty to form a high opinion of the willingness and ability of the Memphis high-school teachers and principals to cooperate. They have cooperated with us most cordially and delightfully in every possible way; and have sincerely tried to help us in making our work of value to them and to the schools. We were obliged to put some burdens on them at the most trying time of the year; yet almost without exception they did all that we asked in a spirit of the utmost courtesy and hospitality. The work of those who have to look for faulty as well as for meritorious features is not intrinsically pleasant, no matter how interesting it may be; but these teachers and their pupils made us feel so welcome and so much at home with them that our field work was a delightful task. With such experiences in mind it is impossible for us to make any other inference than that the spirit of cooperation between the teachers and their superiors, and among the teachers themselves, comes very near to being all that could be wished for. There were observed some points of detail where administrative relations were not working out with perfect smoothness, but these cases were all capable of satisfactory adjustment so far as we could judge. We found most of the teachers not only willing, but anxious to receive any criticisms or suggestions that might in any way help them to improve their work. This was true of the principals also.

Testimony of value as to cooperation was found in the teachers' answers to our questionnaire. These told of numerous and varied community activities in which they had cooperated and led their pupils in cooperating.

As to factors 4 and 5 we have the impression that there is good cooperation in what is being done; but that in general both the student extracurricular activities and the teachers' professional activities are not developed to the extent of maximum efficiency and advantage. We believe that both these features of school work might be made both more extensive and more intensive with general advantage to the high schools; and we therefore recommend that both student organizations and teachers' professional organizations be given special consideration and study with reference to possibilities of further development and correlation with the purposes of the high schools.

VI. ROOM CONDITIONS.

1. *Attractiveness.*—Artistic displays of school work; making room homelike; keeping things neatly arranged; use of pictures; plants, window draperies, etc.

2. *Order, adaptation.*—Adaptation of furniture and visual aids to the school work; system.

3. *Controllable hygienic features.*—Attention to heating, ventilation, adjustment of window shades, cleanliness and hygiene of pupils, habits, posture, etc.

With regard to attention to room conditions the teachers generally are about as good as the average elsewhere; but the average teacher gives too little attention to these matters. Teachers who do pay careful attention to these details usually stand out as exceptionally good teachers in other ways as well as in this one. In the Central High School the teachers who do not have a so-called home room, but have to hold their various recitations in different rooms, are at serious disadvantage with respect to factors 1 and 2. This is perfectly obvious and needs no further comment, excepting that something might be done through cooperation of those teachers and pupils who use these rooms.

As to factor 3, teachers generally are great sinners with regard to neglecting the proper adjustment of window shades. So far as 90 per cent of all teachers are concerned there might as well be no such things as a window shade, for they simply pay no attention whatever to these essential aids to school hygiene. The Memphis high-school teachers are no better than others on this point; but they have an excuse in that most of the shades are in such a dilapidated condition as to be absolutely useless.

It is recommended that the subject of better room conditions as outlined above be given special systematic study and supervision until marked and permanent improvement has been accomplished in all those rooms where conditions are not conspicuously good. The silent and subconscious education in taste and refinement that results from homelike, orderly, and elegantly kept schoolrooms, artistically arranged and decorated is not yet generally accorded the importance in school life that belongs to it. The art department, which is functioning so well for the few pupils it is reaching, ought to be a dominating influence in the movement that we are urging.

THE TEACHERS' QUESTIONNAIRE.

In order to get from their own testimony some idea of the teachers' conceptions of the educational values of their subjects, and in what manner they attempt through their methods to realize these values, the following questionnaire was given out. It was answered by all but one or two of the teachers in the Central High School.

Name____________________________ Subject taught__________________________

1. What are the larger aims that you have in view in teaching your subject (or subjects)?

2. In your daily class work what kinds of opportunities do you have (*a*) for causing your pupils to form desirable habits, or (*b*) to acquire valuable ideals, or (*c*) to develop tastes and appreciations, or (*d*) to learn how to think and how to study independently?

3. Just what do you do, if anything, to connect up your classroom instruction (*a*) with the specific interests of the children, or (*b*) with the needs, activities, enterprises, and welfare of Memphis?

The answers are very clear and satisfactory and in most cases very commendably specific, showing that nearly all the teachers have clear conceptions of the importance of forming useful habits, inculcating valuable ideals, developing tastes and appreciations, and stimulating independent thought through the media furnished by the various school subjects. Most of them have very intelligent views of what the larger aims should be in teaching their subjects. Their answers show that they are devoted to their pupils and their work and have high and exacting professional ideals. A large majority of them give direct testimony as to specific methods used; and the methods mentioned are good. There is much satisfactory testimony in response to the third question. These answers from the teachers, comprising about one hundred and fifty pages of manuscript would make an interesting booklet, worth careful reading by anyone who teaches in high schools or who has children in high schools. If the board of education should order them edited and printed for distribution among teachers and parents, the booklet would be well worth its cost.

One further comment on these answers: They indicate that many of the teachers do far more to develop thinking ability than the observer was able to find evidence of. There are two possible explanations for this: First, the recitation work observed may not have been a fair sample of the yearly product. This is very probable since the examinations were so close at hand, and the teachers were perhaps more worried about them than usual on account of the loss of time due to influenza and other causes. This would have the effect of intensifying a tendency already too great, to have the pupils give back memorized facts from the textbooks instead of placing them in problematic situations and inciting them to think their way out.

Second, the actual practice of the teachers may not be so good as their professions of faith. This also is very probable, for it is a common trait of all of us decent humans to set up high ideals for ourselves and then to fall far below them in our performance. Yet we are far better for adopting these ideals and thinking about them; and our practice improves faster when we have set up standards of perfection toward which we persist in striving.

IV. THE PROBLEM OF HIGH-SCHOOL ADMINISTRATION.

THE PRINCIPLES OF INTERNAL GOVERNMENT.

There are three phases of the internal government of the high school for which the principal is responsible—organization, direction, and supervision.

(1) He is responsible for making the program of studies and organizing these into curriculums, for organizing the pupils into classes and sections, in which each group can get the kind and amount of instruction that are suited to its needs, for assisting the pupils in working out and organizing clubs and teams for extra-curricula activities that are of value in education and growth, for assigning the teachers to departments according to their qualifications, assigning rooms and recitation sections to them, and making the time schedule and the administration rules which show what these assignments are.

(2) All these organized activities require to be carried on under authority and direction; and in a large school, as in any large business organization, much of the direction must be parceled out and distributed among various other persons to whom the requisite authority must be delegated. So the principal directs the school organization as a whole, and in its parts, either in person or through the assistant principals, heads of departments, teachers, and officers of student organizations.

(3) Assuming an organization perfected in its details, with an executive and directive personnel in which, under the direction of the general manager (in a school, the principal), each individual subordinate has been chosen with reference to peculiar and expert knowledge and skill in that portion of the directive and executive work assigned to him or her, there yet remains an important function, too often badly neglected or at least very inadequately perfected in many of our elementary schools, and still more imperfect in most of our high schools. This is the third, or supervisory, function. The teacher must supervise the pupils in their study and in their socialized recitations. They must also assist the principal in the supervision as well as in the direction of the student organizations and extra-curricular enterprises. The heads of departments must direct the cooperative work and study of the teachers of their departments in accordance with the general educational policies and plans of the

principal as approved and sanctioned by the superintendent and the board of education.

They should also assist the principal in supervising the actual work of instruction within their departments in such manner and within such limits as he may specify. The assistant principals should be the right-hand man and woman of the principal in all his executive work. They should handle all excepting the most intricate and difficult of the cases of discipline that inevitably come up for settlement from teachers in a large school—the man dealing mostly with the boys and the woman mostly with the girls.

They with the stenographic clerk should take the clerical work entirely off the hands of the principal, performing it under his direction, thus leaving him free to work out the larger problems of plans and policies, of dealing with parents, with the superintendent, and the board, of directing the school government, and most important of all, of selecting and recommending teachers and supervising directly the teaching in all departments. It is in this third factor, supervision, that most schools are weak; and this weakness usually results from three conditions: (1) The principal is not given a sufficient number of competent assistants. More is expected of him than is humanly possible for one man to accomplish effectively.

(2) The principal fails to perfect the organization by choosing the personnel and distributing delegated responsibility and corresponding authority in such efficient ways that he can reserve ample time for supervision.

(3) Too often the principal of a large high school, either from necessity or from taste and adaptability, gives too much attention to executive and clerical duties and to disciplinary cases, and does not adequately perfect his knowledge and skill in the theory and practice of classroom management and instruction. Thus, he may fail to give effective supervision because the teachers feel that his suggestions and criticisms lack that specific analysis and definite constructiveness that is necessary to inspire confidence and to enlighten them specifically as to wherein and how they may improve their technic.

ORGANIZATION AND DIRECTION IN THE CENTRAL HIGH SCHOOL.

In the second section of this chapter we have discussed specifically the changes in curriculum, content, and organization which, in our judgment, should be made in the Central High School. Another suggestion looking toward future development may be made appropriately at this point. There seems to be a considerable number of pupils who would desire to take in the high school more advanced courses in science, mathematics, and economics than can be offered under the 8–4 plan or the 6–3–3 plan, which have already been mentioned. For example, it is known that certain groups of boys would like to take at home advanced courses in vocational electrical wiring and construction, automobile work, industrial and pharmaceutical chemistry, architecture, and surveying; and it would be a great advantage to the city if such courses were offered as advanced electives for those who might avail themselves of them by taking a post-graduate year. Such courses as are known to be wanted by a sufficient number of pupils to justify it economically might be offered, provided the few necessary additions to the teaching force and equipment could be made. It is believed that this would soon demonstrate the desirability of adding two years of graduate work of collegiate grade, thus providing for a municipal junior college. It would be quite easy to pass ultimately from the 8–4 plan of organization which is now in operation, or the 6–3–3 plan, which we now recommend, to the 6–4–4 plan, which would include six years of elementary work, four years high school (grades 7 to 10) and four years junior college (grade 11–12), and freshman and sophomore college. Such an organization would enable many pupils to complete the first two years of college at home with greater economy than they could at distant institutions. Also it would enable many who otherwise could not afford to go away to college to obtain two years of college work. These would enter the commercial, industrial, and professional life of the community with two more years of training than such persons are now getting, and this would benefit the community, because of the greater efficiency of these young people due to their better training. We believe that this suggestion is well worth careful thought on the part of the community.

THE ORGANIZATION OF PUPILS.

Regarding the organization of the pupils, it seems desirable to make several comments.

The present method of organization in classes and courses appears undesirably loose and indefinite on account of the fact that pupils are allowed so much freedom in choosing subjects and even in choosing teachers. Pupils with widely different aims, interests, and capacities are thus found in the same recitation sections. This condition would be largely corrected by the adoption of the curriculum organization that we have recommended, especially if each group of pupils pursuing a given curriculum were organized separately and the recitation sections of each curriculum were assigned to a corresponding definite group of teachers. With this arrangement and with a reduction of failures and repeaters that could be brought about by better directions and supervision, the grade or class groups each would represent something definite and coherent, and so also would the curriculum groups within the class organizations. Class organizations could then be used as large and well assorted working units for cooperation in the larger community enterprises which the school from time to time takes on.

The extent to which the school has been organized to assist in patriotic work and other enterprises of general community interest is very creditable, and there can be no question that education in civic cooperation of great value to the pupils as well as work of value to the Nation and community have resulted. It is believed that class organizations would make such community cooperation even more effective.

As to supplementary and extra curricula students activities, the school seemed to us to be somewhat underorganized. Student activities seem to many persons a mere nuisance, productive of nothing of value to the students, and only interfering with "the real work of the school." This view is passing; and we are coming to realize that these student activities, provided they are wisely chosen and properly directed and supervised, afford harmless recreation and serve to broaden the interests, sympathies, and intelligence of the participants. Moreover, a fact still more important, they afford the best and most natural means of practice for the pupils in cooperation and team work for the accomplishment of worthy purposes. Therefore they are of great value as means of civic training and education. But they must be carefully selected; and they must be efficiently organized and officered, and carefully and wisely controlled, directed, and supervised. The following are some of the types of student organizations that are useful for physical, intellectual, and recreational development in a large high school if operated under carefully drawn rules which prevent any one student from dissipating his or her energies by belonging to too many of them: School and class athletic teams; school chorus; school orchestra; boys', girls', and mixed glee clubs and class quartets; boys' and girls' debating societies; dramatic club, art club, science club, class literary, and musical societies; and foreign-language clubs.

THE SIZE OF CLASSES.

With regard to the number of pupils in a recitation section, it is a generally accepted principle that for the best work in the classroom and for the most economical use of the tuition funds, classes should not be either very large or very small. In a subject with a section of five pupils, taking one-fifth of the time and energy of a $1,500 teacher, the tuition cost per pupil per year for that subject is $60, which is certainly extravagant, not because the teacher is overpaid, but because his labor, for which the community pays, is unfairly apportioned among the students, some of them getting more than their equitable share of it. If many of these small classes occur in a school, one of two consequences follows: Either more teachers are employed than ought to be, or compensation is brought about by making other classes too large. This is harmful in two ways:

First, instruction in oversized classes is necessarily inefficient, for either each pupil gets too little individual attention or else the teacher is overburdened, and as a consequence his preparation suffers and he also becomes so wearied as to lose snap and efficiency.

Second, the distribution of the tuition fund is again unfair in that each pupil in a large class gets less than his share of what the tuition fund is supposed to buy. For example, in a class of 40 pupils occupying one-fifth of the time of a $1.500 teacher the tuition cost per pupil per year is $7.50. Thus pupils in a section of five receive from the people's tax money eight times as many dollars per year in the form of tuition as pupils in a class of 40. Would any democratic community permit such unfairness if it knew about it? It is the business of a school survey to find out such things if they exist and let the community know.

The number of pupils in recitation sections in the Central High School, as reported by the teachers, is as follows:

Number of pupils in the class:	Number of classes.
1 to 4	1
5 to 9	8
10 to 14	25
15 to 19	32
20 to 24	63
25 to 29	64
30 to 34	43
35 to 39	20
40 and over	13
Total	269

It will be seen from this table that out of 269 sections 9 have fewer than 10 pupils and 25 others have fewer than 15 pupils. Thus 34 out of 269 classes, or 12.6 per cent or about one-eighth of them, are so small as to be both unfair and extravagant; 127, or a few less than half of the classes enroll from 20 to 29 pupils, about the right numbers, in general, for the best economy and efficiency. Forty-three classes are at the limit of size, according to the standards of the North Central and Southern Association of Colleges and Secondary Schools, or a little over it, while 33 classes, again about one-eighth of the whole number, enroll 40 or more pupils, and are at the other extreme of unfairness.

In the gymnasium, it might be argued, large classes can be efficiently handled; and this is true, but the enrollments of the girls' gymnasium classes range all the way from 20 to 103. Surely 20 is too small a number for efficiency and economy excepting in a class in corrective gymnastics where much individual attention is needed, and surely excepting for exhibition rehearsals 103 is too large for training purposes. Many of the large classes are in subjects requiring much drill work in which large numbers are not so serious as in subjects requiring much thought work; but although the range is not so great the same sorts of extremes in numbers enrolled occur in these classes also. For example: Expression, 18 to 118; algebra, 10 to 39; science, 9 to 42; French, 2, 5, 10 to 31, 34, 35; domestic science, 6 to 27; domestic art, 7 to 24; English, 16 to 39; public speaking, 3 classes, 8, 9, 16; history, 12 to 38.

Our attention has been drawn to the fact that these are total enrollment figures, and that many of the pupils enrolled have dropped out, so the large classes are now actually smaller; but this condition which diminishes the evil at one end increases it at the other, for it also makes the small classes smaller.

These conditions are due largely to defects in organization, most of which probably grow out of giving too much liberty in electing studies. There will always exist some of these inequalities that can not well be avoided; but when one-fourth of all the sections are either much larger or much smaller than they ought to be (accepted standard 25) this condition calls for earnest and careful study to the end that the funds for the high school shall be more wisely and fairly spent.

THE ORGANIZATION OF THE EXECUTIVE AND TEACHING STAFFS.

The organization of the executive and teaching staff might be much improved. Evidently the clerical work falls short of what is and should be desired. We do not regard it as our function to sit in judgment on individuals; but to analyze conditions as a basis for judgment by those who are responsible for conditions. If the clerical work falls short of satisfactory efficiency this means either that there is insufficient clerical force, or those who are doing it lack the requisite efficiency.

There are employed in the school a secretary and a stenographer. In most large schools one clerical assistant who is a business-trained secretary and also a stenographer and typist is employed, and is able to do all the clerical work of the school that is not assigned to the assistant principals and principal's office. In our judgment, much of the school's clerical work should be done by pupils of the business department under the direction of the secretary and the commercial teacher. This would lighten the work of the secretary, and also afford real practical training for pupils who thus assist. The confidential clerical work should be done by the secretary. We can not see why the secretary, if thoroughly trained and competent, should not be able to do all the clerical and stenographic work, provided it is organized on the principles of modern business efficiency.

We found an elaborate system of blanks for the purpose of collecting and collating data. Most of these seemed good, but from our necessarily hasty study of the recording system we think that the blanks and the system might with careful study be so improved as to cut out a large amount of unnecessary transcription of numerical data, with the result of saving work and increasing accuracy. In securing clerical and stenographic service one good salary for a business-trained official will secure better service than two poor ones. It is poor economy to burden teachers (or assistant principals) with much clerical work. Presumably they are trained as educators and not as clerks. These are widely different functions and require very different kinds of training.

In a school as large as the Central High School, there should be not one assistant principal, but two—a man and a woman. These should be persons of culture and a broad and sympathetic human outlook, peculiarly adapted by temperament and sympathetic insight to deal with boys and girls concerning their behavior and purposes. But further than this they should be trained above and beyond the other teachers in the theory and practice of secondary education. They should be real vice principals, either of them capable of running the school in the absence of the principal, and capable of executing any details of his policies which he may from time to time delegate to one or the other of them. Each of them should teach from one to three sections, in order to keep in intimate touch, through daily experiences, with the teachers' problems. They should not be burdened with much clerical work, that with which they are charged being of the administrative type such as can not be intrusted to clerks or secretaries. Their chief function should be the handling of the individual discipline cases of the boys and girls, respectively; but they should also assist the principal in such executive, directive, and supervisory work as he may delegate to them. They ought especially to be able to carry out or direct educational experiments in methods of instruction and class management, and to use educational measurements in testing the results. They should be the chief advisors of the principal in framing his educational policies and in perfecting the details of organization in all departments. In choosing such officials great care should be used to secure persons of training, sympathy, and tact; and the salaries paid them should be ample for securing service requiring such high qualifications.

We have already mentioned the advisability of securing persons of more than usual qualifications for heads of the various departments of instruction. These positions should be filled by promotion where persons of proved qualifications for them are found in the school; but if within any department no teacher is found who does not fully measure up to high standards of scholarship in his specialty combined with a high degree of initiative and leadership, or if there is no one who can rapidly develop these qualities, there should be no hesitation about bringing in persons from outside the system to fill these positions. Heads of departments should be thoroughly familiar with the latest and best special methods in their subjects, should be capable of making, directing, or supervising educational experiments and measurements, and should be capable of directing and assisting the teachers of their departments in their round tables and special pedagogical studies. They should be especially alive to the needs of their departments with relation to equipment; and the selection, ordering, and purchasing of equipment should be one of their special types of duty. They should also have a large voice in the selection of textbooks, and should assist the principal or assistant principal in such work of organization, direction, or supervision, within their departments as may from time to time be specially delegated to them.

THE LIBRARY AND THE LIBRARIAN.

The school library and librarian should be under the immediate direction of the principal, and just as much responsible to him as any teacher. She should be coequal with the teachers, and should cooperate with all of them, but especially with the heads of departments. The librarian should be a successful teacher who has had thorough library training, and should be able either to give or to supervise a series of lessons in the use of libraries and reference works which should be a feature of the English courses in each of the high-school grades. The supervision and operation of the library should belong entirely to her under the cooperative direction of the principal and the chief librarian of the city or school system.

There should be an abundance of good reference and reading books appropriate to the needs of pupils in each of the departments. In most libraries the assortments of books on science, agriculture, geography and travel, civics, and vocations is altogether too meager; and reference work is too seldom assigned and followed up in these subjects. The pupils should be trained to the reading habit in these lines no less than in literature and history. There should be special reading tables in the rooms of each department where books and periodicals withdrawn from the library may be kept for ready study and reference during the special periods when they are needed. Several copies of books most often used should be installed, so that there may be at the same time a copy of each book that is much needed in each of the several rooms assigned to a large department. The departmental library plan should be developed in the Central High School, as the library room is so small that all the library work of so large a school can not be efficiently carried on in it.

THE JANITOR.

The janitor should be under the direction and control of the superintendent of buildings; but the principal of the school should have unquestioned directive and supervisory authority over him to the extent of seeing that his work is always properly done, and reporting him to his direct superior, or to higher authority if necessary, in case he does not cooperate satisfactorily. (See also Chapters II and III.)

AN ESTIMATE.

As compared with the complete type of organization that we have outlined, the present organization of the Central High School has not reached the highest state of efficiency, though in general it should not be regarded as inefficient. This has been the first year of the administration of the present principal. He has been working industriously on organization problems and has accomplished a commendable amount in the improvement of many important details pertaining to the running of the school. He has a broad and intelligent outlook on the modern problems of secondary education and is keeping in touch with the best sources of information concerning all these problems as related to the school. He appears to be most kind and tactful in his dealings with the teachers, and they in turn, without many exceptions, appear to be loyal to him. A general atmosphere of mutual confidence and respect that is fundamental to harmonious relations was quite evident to the observers. This augurs well for the future success of the work under the present administration.

We believe, and recommend, that the organization should be shaped as rapidly as is feasible toward the complete type that we have outlined above. Complete and efficient organization is fundamental to the accomplishment of all the other improvements that are needed.

The principal's work in directing the various activities of the school appears to be carried on about as efficiently as it can be without such perfecting of the organization.

Lack of intimate and efficient supervision, in our opinion, is responsible for most of the weaknesses that we have pointed out.

Better organization, involving more assistance by assistant principals, heads of departments, and a secretary, who are competent to give the kinds of high-grade assistance that are needed, will release the principal from many details that now encroach on his time and energy. Freed from these less important but entirely necessary matters, the head of the school will be able to give his entire attention to working out administrative plans and educational policies, to directing the heads of the various administrative branches of the organization, to maintaining the contacts of the school with parents and community, and to personally supervising the work of the classrooms.

Such personal supervision should result in knowledge as to just where the weak spots in the teaching exist, as to what their specific causes are, and as to what changes in methods should be brought about. The kinds of faults that are widely prevalent in the school should be discussed in round tables with all the teachers present, and a clear consensus of opinion developed as to better methods. The kinds of faults that are peculiar to individual teachers should be tactfully discussed privately with the individuals who have them. In all cases, criticism should be constructive and tactful, always showing clearly the better way, and inciting the teacher to try it of his or her own volition, giving it a fair and impartial test. The supervisor's best and most inspiring work consists in pointing out the specially good or excellent things, some of which can be found in the work of almost every teacher, and showing how the adoption of similar methods for accomplishing similar results would improve the general level of instruction and management. Nothing inspires a corps of teachers more than feeling that if any one of them is doing a particularly good piece of work in any line, he or she is going to receive just credit and approval for it, and that it may be adopted freely and without jealousy by others to the end that it may contribute more potently to the general excellence and efficiency of the school. The supervisor who knows how discriminatingly to appreciate good work and commend it justly and emphatically without suspicion of flattery or palaver is sure to have the loyal and devoted cooperation of those whom he supervises.

MORE MALE TEACHERS NEEDED.

One of the urgent problems of the administration is to get into the school as early as possible more representatives of the highest type of manhood. Of the 53 teachers in this school only eight, aside from the three military instructors and the principal, are men. Counting these, the ratio of men to women is only 12 to 45 in the entire corps, or approximately one man for every four women. The desirability of having in a high school teaching staff as many men as women is so evident and so generally recognized among students of education that argument seems unnecessary. We recommend that when new teachers are to be appointed for the high schools, an earnest search be made for men to fill the position, and that this policy be continued until the numbers of men and of women in the corps are approximately equal. Only men of the highest qualifications should be considered. It is harder to get such men for the schools than it is to get equally able and well-trained women, because men of the right qualifications can command higher salaries in other occupations than it is now common to pay them as teachers in high schools. To secure men of the quality that is needed, higher salaries than heretofore will undoubtedly have to be paid. (For a suggested salary schedule, see Chapter II of this report.)

SUPERVISED STUDY AND THE SOCIALIZED RECITATION.

The time schedule, as now organized, provides for five recitation periods of one hour each, in order to allow for a certain amount of supervised study. The fact that there are so few periods in the school day makes all phases of the problem of assignments of pupils to recitation sections much more difficult. Undoubtedly this is one cause of the bad inequalities in class enrollments, which we have discussed above. It increases the number of conflicts in studies, thus preventing many pupils from getting certain studies in the year for which they are scheduled. We believe in "supervised study" when it is efficiently carried on according to definite and approved methods, but we believe that it is most necessary for the younger pupils. The eleventh and twelfth grades should not need it. In our opinion it would be better to organize the schedule on the basis of eight periods daily of 45 minutes each, providing double periods for supervised study for pupils below the eleventh grade only. This would also allow double periods of an hour and a half each for laboratory and shop work, a provision which would improve the opportunities for more intensive and economical work in the laboratory subjects.

Supervised study as now carried on in this school under the majority of the teachers is not a success, but it might and ought to be successful with all if they all knew what it means and how to carry it on according to efficient methods. It means teaching the pupils how to study, pointing out the best methods of attack for the different factors of each lesson and directing them in resolving the difficulties for themselves. It does not mean telling them exactly what to do at every step; nor does it mean merely sitting in the room and suppressing overt acts of disorder. This new type of teaching activity should be studied and discussed in the teachers' round table, where methods used and results obtained should be compared and some definite standards of procedure set up for the guidance of all.

One of the best of the newer school methods, which we strongly recommend for frequent use in this school, is the socialized recitation. In this type of class work the recitation section is organized as a club, with chairman, secretary, and critic; and the pupils very largely plan and carry out the recitation by themselves, the teacher keeping in the background but directing, supervising, and assisting whenever necessary to keep things moving efficiently. The pupils take turns asking and answering questions, and as a body sustain the chairman in maintaining orderly and efficient procedure. Such recitations, when successfully carried on under the direction and supervision of a resourceful teacher who has skill in doing it, produce in the pupils a marvelous amount of poise, self-control, initiative, and interest. We recommend that this plan be tried out by the teachers in all subjects to which it may advantageously be applied and that procedures and results be compared and discussed in teachers' meetings for the purpose of perfecting it and extending its use.

STUDENT SELF-GOVERNMENT.

Student participation in self-government is another important feature of the best modern high schools. This means not that the running of the school be turned over to the pupils, or that an elaborate system of court machinery be developed to handle the discipline of the school. It means that under the direction and control of the teaching staff the pupils be gradually trained to take upon themselves more and more of the responsibility for the order and success of all the organized enterprises in which they are employed during the school day. The socialized recitation is a fine example of the right kind of participation in self-government. So are the clubs and societies that we have already discussed. Allowing the pupils largely to manage the auditorium meetings is another. The principle is not to give over control to the pupils, but to put on them more and more responsibility for self-control and self-direction as fast as they show themselves to be sufficiently well trained to carry it successfully. A school in which this policy is carried on usually finds itself remarkably free from disciplinary cases, and this plan also affords the finest of fields for the development of group initiative and individual resourcefulness in the pupils. We recommend that a policy of further extending the pupils' present opportunities for participation in self-government be judiciously tried out in the school.

VOCATIONAL GUIDANCE.

Another great need in the organization of the school is a carefully worked-out plan for educational and vocational guidance, to which every study and every teacher should contribute some share.

The making and operation of the plan should be under the direction of a specialist in educational and vocational guidance who is capable of organizing the teachers for the work and directing them in it. Since many volumes have been written, showing the immense social and economic importance of this work and setting forth the principles in accordance with which guidance plans should be made and operated, it is unnecessary as well as impossible adequately to discuss this feature here. "Vocational guidance" is taught as a subject of study in the school, but evidently it is not functioning here in any such way as the term itself implies, else more pupils would be pursuing it than the few who now are. Vocational guidance is not a subject for pupils to study. It is an organized function for a school faculty to carry on. We recommend that the development of this function of educational and vocational guidance be given very serious consideration and that if feasible it be undertaken under the direction of a specialist to be attached to the supervisory staff of the superintendent. It should begin not later than the latter part of the sixth grade and be carried on through the last years of the high schools. (See also Chapter IX.)

BUILDING AND EQUIPMENT.

The Central High School building is large and generally commodious and well built. It is well and correctly lighted and fairly well kept. Its most serious fault is that most of the rooms are much too large. On the other hand, some of them are too small for classroom purposes though not for committee rooms, rest rooms, etc., for which probably they were originally designed. There ought to be one or two study rooms on each floor, larger than any of the present rooms. The gymnasium is too small for both boys and girls in a school of this size. The best designs provide for two adjacent rooms, which may be used separately or thrown together by raising a rolling partition. The shops are especially commodious and well appointed, and are also well equipped; but there is no machine shop, which prevents development in a line of work that is rapidly growing in importance in Memphis. A well-equipped machine shop is needed.

The auditorium of the school has 1,153 seats. As the entire enrollment is 1,537 and the average daily attendance about 1,200, the auditorium will not seat all the pupils at any one time. Besides being somewhat too small for the number of pupils attending on occasions when it is desirable to have the whole school present, and perhaps also friends of the school from outside, the auditorium has two serious defects. The first is that the school power plant is situated immediately under the stage, and that the noise and vibration of the engines must interfere seriously with the audibility of speakers' voices. The second is that, as we are informed, the auditorium can not be heated and lighted without running the whole power plant. This fact, on account of the expense, greatly limits the number of occasions on which the auditorium may be used for community center gatherings.

As a step toward the further development of the Central High School building as a community center, it might be well to seriously consider the erection of a separate but adjoining building to house an auditorium and gymnasium, library, and the home economics and art departments, the building to be so planned that only such parts of it as are to be used in any evening gatherings need be lighted and heated at the times when these are held. (See also Chapter III.) The work of administration would be much simplified and a vast amount of wasted time would be saved by the installation of an interroom telephone system, connecting each room with the principal's office. This feature is now regarded as essential to a large high school as is a program clock. The installing of such a system might be done by the students of an advanced class in electric wiring and construction, under the direction of its teacher. This would constitute one of the best types of projects out of which such a class could learn the principles of electric wiring by actual experience in work of commercial value.

The equipment of the school indicates that the school board in the past has intended to provide generously for this school, but much that has been provided has not received the intelligent care that it should have received, and much that has been provided is apparently not used. The school is not so well provided with maps as it should be and those in stock are not so much or so well used as they ought to be. There should be an abundance of physical, political, and economic wall maps and blackboard outline maps, and also historical maps. These should be frequently used in the study of English literature, history, Latin, modern languages, and geography. Cabinets should be provided for these, where they may be kept when not in use.

The walls of the schoolrooms should be adorned with pictures which are both artistic and instructive. The school has such pictures, but there are not so many as there might well be. Attention has already been called to the educative value of artistic and tasteful interior decorations for schoolrooms. This is an enterprise in which the whole school, as well as the pupils who use certain particular rooms, can be enlisted to advantage. Graduating classes and the alumni association, if there is one, as there should be, can be interested in helping, so that every year some valuable permanent feature of decoration may be added.

In almost every department pictures and lantern slides are needed for adequate illustration of the objects and scenes connected with the facts and events that are studied. This is particularly true of geography, history, and science, but scarcely less so of English literature, foreign languages and literature, and civics. Even in economics and mathematics lantern slides of curves and graphs, illustrating the relations that exist between certain sets of facts, are very instructive. In this school some of these types of illustration are used, but their use is far less general and frequent than it might be to advantage. The school has a splendid moving-picture machine and four lanterns, but on account of the scarcity of slides, or, possibly, lack of sufficient enterprise among teachers, the lanterns are less frequently in use than is desirable.

Another feature of illustrative enterprise that is prominent in some schools but not so in Memphis is the museum feature. This may be developed in the fields of art, archeology, history, and science, and a gradually growing collection is always a source of much interest and instruction to young people. Once started such a museum grows rapidly by student's contributions and gifts by friends outside the school.

V. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

1. The high schools of Memphis are attracting and holding for continuous training a smaller proportion of the city's youth than is desirable. (See also Chapter II.)

2. The high-school accommodations are insufficient to provide for larger numbers than are now using them.

3. Among those who are attracted to the high schools there are too many failures, and too many who drop out before completing their curriculum. (See Chapter II.)

4. The path along which the city must move in order to improve this situation involves serious consideration of the following educational policies:

(*a*) Revision of the elementary curriculum so as to make it broader, more thorough, and more vital. The teaching should be improved through more thorough supervision.

(*b*) More care, better testing, and better judgment should be used in promoting pupils to the high schools. Pupils unfitted for high-school work should be discovered earlier and given work in special courses of training for the kinds of skill that they can acquire. They should not be allowed to enter and clog the high schools.

(*c*) Steps should be taken to provide more and better high-school accommodations, especially for the vocational high school and the colored high school. Probably the most immediately effective step would be the establishment of two or more junior high schools, including grades 7, 8, and 9, to be housed in adequate modern buildings designed for the purpose.

(*d*) The establishment in the seventh and eighth elementary grades and in the high school of an efficient system of education and vocational guidance, which shall enlighten the pupils concerning the nature and purposes of the high-school studies and facilities, and concerning the various industries and occupations—their nature, the opportunities they afford, and the kinds of ability and training needed for success. The importance of thinking about the question of their future careers and of trying to find out what their capacities are should be impressed on the children beginning about the age of 12 years. (See also Chapter IX.)

(*e*) The carrying out of certain reorganizations and improvements in the curriculums, teaching, and administration of the high schools, discussed in this chapter and in the chapters on Civic Education and Science Instruction. (See Chapters VI and VII.)

5. The teachers in general rank high in personality and intellect and in most of the desirable factors of leadership and cooperation; and nearly all of them have intelligent conceptions of educational values and of the larger aspects of socialized methods of teaching. On the other hand, nearly all of them are unskillful in most of the ordinary phases of class organization, management, and instruction, and in the development of group initiative. There is not so much nor so good teamwork among either teachers or pupils as, with their other excellent characteristics, it is evident that there might be. The right disposition is there, but the mechanics of the class direction and control have not yet been well worked out. (See also Chapter II.)

6. The room conditions are not so well attended to as they should be. (See also Chapters II and III.)

7. As means for improving these conditions we recommend the following:

(*a*) That effective provision be made for close and thoroughly expert supervision of the classroom work in every department. (See also Chapter II.)

(*b*) That departmental and general teachers' round-tables should be held at frequent intervals, at which departmental and general problems of teaching should be discussed by the teachers, by department heads, by the principal, and occasionally by experts and specialists called in from outside the schools.

(*c*) That for heads of departments only persons who have proved their ability to lead others in departmental teamwork, and in the study and evaluation of methods of teaching shall receive permanent appointments.

(*d*) All teachers, but especially department heads, should be required to study systematically standard books and articles from current educational and psychological journals on modern educational problems, and especially on the principles and methods of high school teaching.

(*e*) It would be wise for the school board to appropriate each year a small amount with which to purchase for a teacher's alcove in the high-school building several copies each of such books as McMurry's How to Study, Dewey's How We Think, Dewey's Democracy and Education, Thorndike's Principles of Teaching, Thorndike's Brief Course in Educational Psychology, Hollister's High School and Class Management, Johnston's Modern High School, Monroe's Principles of Secondary Education, Inglis's Principles of Secondary Education, Twiss's Principles of Science Teaching, Judd's Psychology of the High School Subjects, Parker's Methods of Teaching in High Schools, Colvin's Introduction to High School Teaching, and Monroe's Educational Measurements, or Ruggs's Statistical Methods in Education. These, together with such teacher's professional journals as the School Review, the Educational Review, School Science and Mathematics, the English Journal, the Classical Journal, the Journal of Geography, the General Science Quarterly, etc., should be made easily accessible to the high-school teachers. These books and journals should be reviewed by committees, and reports on them and chapters or topics from them should form subjects for discussion in the general and departmental round tables.

(*f*) Teachers should be encouraged, and in some cases required to attend summer sessions at colleges for special courses in their subjects or for special studies in methods. Reports on such work should also form topics for discussion in the round-table meetings.

(*g*) Teachers should be encouraged to make experiments in methods and use educational measurements for testing the results of their work.

(*h*) The teachers should be given opportunity to visit one another's classes and notes taken of the observations made during these visits should occasionally be made the subject of impersonal round-table discussions. These should emphasize the good points observed rather than the faults.

(*i*) The teachers should be required to make written plans for their lessons. A plan book especially suitable for high-school teachers is published by the Dobson-Evans Co., Columbus, Ohio.

(*j*) There are a few cases in which the teachers are not well qualified to do the most progressive and effective work in the subjects they are teaching. It would be wise in these cases to shift these teachers to other assignments in which they possibly could do better work, and assign the former classes to teachers who are especially trained and qualified for teaching them.

8. Important curriculum reorganizations are needed and should be carried out.

9. The present organization of personnel is imperfect and should be improved as rapidly as possible.

10. The great outstanding need of the school is more and better supervision of instruction and class management, and more systematic study of the applied psychology of teaching by both teachers and supervisors.

11. The numbers of men and women in the instruction staff should be equalized as rapidly as possible; but only men of the best qualifications should be employed.

12. The supervised study feature should be continued, but should be made more efficient; and probably the time schedule should be remodeled.

13. Other modern features of administration known as the socialized recitation, and pupil participation in self-government, which are in operation to a very limited extent, should be further developed, expanded, and perfected.

14. The school needs more equipment of various sorts; and better and more frequent use should be made of that which it already possesses.

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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 3

CIVIC EDUCATION

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LETTER OF TRANSMITTAL.

DEPARTMENT OF THE INTERIOR,
BUREAU OF EDUCATION,
Washington, September 25, 1919.

SIR: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. CLAXTON,
Commissioner.

The SECRETARY OF THE INTERIOR.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

(1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.

(2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.

(3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.

(4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.

It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*

Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*

Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*

Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*

Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*

Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*

Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*

Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*

F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*

John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*

Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*

George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

PART 3. CIVIC EDUCATION.

CONTENTS.—1. Aims and need of civic education; civic consciousness of Memphis; how the schools meet their responsibility. 2. In the elementary schools—A. Civics in the grammar grades—A stenographic lesson; dominance of the textbook; concrete material in Memphis; B. Correlation of history and geography with civics—Outline of social study for grades; C. Training for citizenship in first six grades—Work of Jefferson Street School; problem of discipline; the socialized recitation; D. Instruction in civics in first six grades—Pupils' experiences proper basis; no use made of concrete material; E. History in the first six grades; in fourth and fifth grades; in sixth grade. 3. Civic education in the high schools; in the Central High School; in the Vocational High School; in the Kortrecht High School (colored); high school history; economics and other social studies; adaptations for the Vocational High School; adaptations for the Kortrecht High School. 4. A summary of recommendations.

1. THE AIMS AND NEED OF CIVIC EDUCATION IN MEMPHIS.

Good citizenship has always been recognized as an aim of public education. We need to be reminded occasionally, however, that it is the fundamental justification of schools supported by public taxation, and that it should be a controlling aim of all that the public schools do. We recognize a variety of other aims, such as facility in the use of spoken and written language, mental culture, æsthetic appreciation, physical fitness, or vocational preparedness. But whether we think of the aims of education in terms of mental, physical, industrial, moral, or social fitness, it is always fitness for community life and service. The efficiency of the work of the public schools in all lines must be measured by the degree to which it meets community needs.

How well the schools of Memphis are functioning with respect to these particular aims, all of which are contributory to the larger social or civic aim, is discussed in other chapters. But, in addition to these other recognized elements of an education, the good citizen must somehow acquire an intelligent and wholesome attitude toward, as well as an understanding of, his community relations and the agencies of community action. He must be conscious of a community of purpose, of the interdependence of individuals and groups and interests within the community, of the necessity and means of community teamwork. He must be possessed of high civic ideals and well-grounded habits of social conduct. In a word, he must realize his membership in the community, which is merely another name for his citizenship. It is the purpose of this chapter to discuss what the schools of Memphis are doing, and what they may be expected to do, to provide for this essential factor in good citizenship.

CITIZENSHIP A VOCATION.

Citizenship is a very practical thing. It is a vocation to which all boys and girls are called and in which all must serve. Education for citizenship must, therefore, be as practical as any form of vocational education. An attempt is made in the following paragraphs to define its aims in a practical way.

Speaking first in broad terms and from a national point of view, the ultimate aim of civic education is an *efficient democracy*. Our Nation is committed to the principles and ideals of democracy, for the preservation of which we have just passed through the most stupendous of wars. The *practice* of democracy, however, and especially its efficient practice, is a matter of slow and laborious cultivation. The public schools of Memphis are a part of the public educational system of the Nation, and have no right to do less than the best they are able to do for the promotion of a democracy that is efficient.

From a local point of view, the aim of civic education in the schools which Memphis supports by public taxation must certainly be to make Memphis a better place in which to live. The people of Memphis have just completed a week's celebration of the first centenary of the city's progress. They have much to be proud of, but most of all of the initiative, the leadership, the devotion to public interest, and the spirit of teamwork that have made this progress possible. But Memphis has only reached a milestone, and not the end, of her journey. She faces to-day intricate problems that are far from solution, as her people themselves recognize. There is to-day more need than ever before for initiative, constructive leadership, and whole-hearted teamwork for common ends. The civic education that does not demonstrate this fact and cultivate these qualities fails utterly in its purpose.

THE CIVIC CONSCIOUSNESS OF MEMPHIS.

In certain directions Memphis is rich in these qualities of good citizenship and of community progress. This is notably true in some fields of her economic life. Her business men have learned, for example, in the words of one of them, that Memphis "can not build a wall around herself and live for 30 days." Hence, the "farm bureau" of the chamber of commerce, which, through foresight, initiative, and wise leadership, has developed a remarkable degree of cooperation not only among the business men of Memphis herself but among and with the agricultural interests of the "Memphis territory," of which Memphis is but the heart. The teamwork secured in this field of community life has required organized leadership, but it has also required, as the chamber of commerce will confirm, a vigorous campaign of education, of civic education, for a community consciousness had to be created, new habits of civic action had to be formed.

There are other phases of community life in Memphis in which civic consciousness and civic habits have not so clearly been formed. This appears to be true, for example, with respect to public education itself, the very bulwark of efficient democracy. Whatever deficiencies the school survey may show to exist within the school system, they owe their existence, in the final analysis, to this fact. The most frequent, indeed the almost universal, answer forthcoming from citizens of Memphis, within the school system and outside of it, in response to attempts to get to the bottom of obvious and acknowledged deficiencies, was *politics*—politics that makes of the school system, not an agency of community cooperation for community interests, as it was intended to be, but an agency by which the community interests are sacrificed for private ends. The only remedy is an enlightened and militant public opinion; and this is an aim of civic education.

A few years ago Memphis passed from the traditional American form of city government to the "commission plan." It was doubtless an evidence of civic progress, or at least of civic aspiration. But one may hear on all sides expressions of disappointment over the failure of the new form of government to accomplish all that was expected of it. A movement is now under way for another change to the "city manager plan," under which the government is expected to be both more efficient and more directly under the control of the people. Progressive and efficient democracy requires occasional changes in governmental mechanism to keep pace with changing conditions. Many such changes in our local and national Governments have been made in recent years, tending to give the people more direct control. But too complete reliance upon such changes has resulted in disappointment, and will continue to result in disappointment unless they are supported by a widespread and deep civic consciousness and conscience even in the small things that make community life pleasant and efficient. It is the aim of civic education to provide this support. Without it no form of government will be efficient in a democracy; with it, even a poor form may produce good results.

THE COOPERATION OF ALL AGENCIES NECESSARY.

The reference above to the chamber of commerce suggests that responsibility for civic education in Memphis does not rest with the schools alone. Civic education is constantly going on, for better or for worse, through countless agencies and influences. In the face of this fact too much should not be expected of the schools. Their work, however good, may be largely negatived by antagonistic influences in the community. It is a vital matter whether the schools and these other influences are pulling together or in opposite directions.

From the windows of a Memphis schoolroom, where a recitation was going serenely on regarding "how government protects property and property rights," there could be seen an entire row of vacant houses with every windowpane smashed. And during a ride around the city a visitor was heard to remark that never before had she seen a city with so many broken windows. Why does *not* government protect property and property rights in Memphis? Is government responsible? Do school children break windows? Are the schools responsible? Certainly government needs the cooperation of the schools and of school children; but, on the other hand, instruction in the schools regarding property rights must largely be futile in a community where property rights are not conspicuously sacred.

CONDITIONS WHICH MUST BE TAKEN INTO ACCOUNT.

Memphis is in many respects a beautiful city. Her beautiful parks and drives and residential streets are a more potent influence for a wholesome civic pride and loyalty, and even for civic righteousness—for that portion of her population that really have opportunity to enjoy them—than any number of formal lessons in the schools on parks and clean streets and "civic beauty." A potent influence in the opposite direction exists, in spite of the best that the schools can do, for those portions of the population to whom the community denies the right to live and work in pleasant surroundings. It is hard for a visitor, in forming his impressions of a community, to overcome the effect of *unnecessary*, *nerve-wrecking*, *sleep-destroying noises* in the streets, chief offenders being automobiles with screeching sirens, whistles that would do credit to steam locomotives, open exhausts, and the like. Many such things are relatively small matters, but they are at once an evidence of an undeveloped civic consciousness, and a distinct influence in the civic education of the people, especially of the young.

Other matters are more serious. During the course of the school survey the local papers were full of alleged disclosures of law violation and failure of law enforcement. Following are extracts from an editorial in one of the papers:

> There was a powder train all over Memphis Saturday. That there was no explosion was due to sheer luck.
>
> Several days ago some one started a story that there was to be an outbreak of Negroes on Saturday. Others started the story that certain white people were going after the Negroes the same day. The story gathered in volume and in circulation as it was repeated.

Last Friday there was suppressed excitement throughout the city. During Saturday afternoon and Saturday night the police force was largely reinforced and placed in the Beale Street neighborhood. In the meantime pawnshops, where guns and pistols are kept, disposed of their stocks of goods. (It is unlawful to sell a pistol in Tennessee, but pawnshops and other stores do a thriving business in selling pistols of the latest improved pattern.)

There were probably more people armed in violation of the law and ready to break the law last Saturday in the city of Memphis than for many years before.

The law binds all alike, and only in the supremacy of the law and the cheerful obedience to the law is there a way out.

Memphis and this territory are on the verge of a tremendous development, but the harvest of this development for better things will not be reaped unless every thoughtful and intelligent man realizes that the way to order and prosperity is along the road of peace, sobriety, respect for authority, and a determination to permit the proper authorities to enforce the law, with a fuller determination to assist these authorities in their task by being law-abiding ourselves.

HOW THE MEMPHIS SCHOOLS MEET THEIR RESPONSIBILITY.

These random citations are made not to asperse Memphis, but as evidence that there is a very real and practical need of civic education in Memphis, as in every American community. In this matter the public schools have a heavy, though by no means the sole, responsibility. It is a matter of grave concern to Memphis and to the Nation how this responsibility is met.

It can not be emphasized too strongly that the question is not whether the schools of Memphis shall or shall not educate for citizenship, but *how?* They *are* doing so, and it is inevitable that they should do so. But they may do it adequately or inadequately, well or badly, in clear recognition of a definite civic aim or only casually as an almost unconscious by-product. As a matter of fact, a certain recognition is accorded to civic education as one of the aims of the Memphis schools by the inclusion of the subject of civics in the curriculum. A wholesome civic influence is unquestionably exerted by every good teacher, whatever her subject. This influence is often indirect and even unconscious, and never measurable. But, on the other hand, the survey led to the conclusion that civic education is far from being a conspicuous aim of public education in Memphis; that, so far as it is recognized, provision for it is entirely inadequate; that the civics instruction given, especially in the elementary schools, is ill adapted to the needs of Memphis or of our national democracy, or to promote the civic development of the pupils; and, finally, that many of the methods and practices throughout the school system, and the conditions under which education is carried on in many cases, are positively antagonistic to the development of an efficient citizenship or of an efficient democracy.

To justify these statements, and to illuminate the evidence that is given hereafter in support of them, it is necessary to recognize the standards that have been used in passing judgment. This report is based on the premise that effective civic education must do at least three things:

THE THINGS WHICH CIVIC EDUCATION MUST DO.

1. It must produce intelligent citizens. Intelligence is based on knowledge, and the young citizen must be given the kind of knowledge that will enable him to act intelligently. The intelligent citizen must be observant of the actual civic conditions and situations in which he finds himself, must be capable of analyzing and interpreting these situations, of applying his knowledge to them, and of forming judgments regarding the best means of meeting them. This can only result from practice, and effective civic education must afford this practice. The intelligent citizen of Memphis, for example, will know not only that the police, and the courts, and other agencies exist to protect property and property rights, and to preserve order, and how they are organized for that purpose, but also that property rights and personal security are not altogether assured (as evidence the broken windows opposite the school-house, see p. 12), why this is, what he himself may do about it, etc.

2. Civic education must produce citizens who are not only familiar with the facts and the ideals of democracy, but who are also inspired to act in accordance with them. It must cultivate adequate and proper motives. The broken windows of Memphis are due more to indifference than to lack of knowledge. So are the defects in the school system, and the failure of the commission government to meet expectations.

3. Civic education must produce citizens who possess certain essential traits and habits characteristic of good citizenship. Obedience to the community will and loyalty to community ideals are among those that first come to mind. The list is long; but among the most important in a democracy are a sense of personal responsibility, the power of initiative, and a spirit and habit of teamwork. Precept and example have a part in the formation of such traits and habits, but the most important factor is *practice*, and civic education must afford the opportunity for it.

It may be possible to elaborate or extend these elements of civic education, but it is not likely that anyone will deny these three. No one of them can be adequately provided for without clearly recognizing the other two.

2. CIVIC EDUCATION IN THE ELEMENTARY SCHOOLS.

In the elementary schools of Memphis there is just one place where citizenship training stands out as an obvious and explicit aim, and that is in the eighth grade, where the subject of "civics" is taught.

Of the approximately 20,000 young citizens in the elementary grades in 1919, only 1,300 were in the eighth grade and therefore receiving this instruction. Moreover, only a minority of the pupils who enter the elementary schools ever reach the eighth grade. In 1919 there were more than 4,000 children enrolled in the first grade as against the 1,300 in the eighth grade and the 1,900 in the sixth grade. The same mortality is shown by tracing the history of the eighth grade of 1918 back to 1911, when it entered as the first grade.

History of the eighth grade of 1918.

	White.	Colored.	Total.
First grade in 1911	2,618	2,298	4,916
Second grade in 1912	1,401	975	2,376
Third grade in 1913	1,382	1,004	2,386
Fourth grade in 1914	1,473	751	2,224
Fifth grade in 1915	1,389	613	2,002
Sixth grade in 1916	1,142	475	1,617
Seventh grade in 1917	1,023	272	1,295
Eighth grade in 1918	1,047	206	1,253

Thus the majority of the elementary pupils in the Memphis schools get no direct instruction in civics.

Instruction in American history is given in the fifth, sixth, and seventh grades. Presumably this has a more or less clearly recognized civic purpose, both in developing civic intelligence and civic ideals. In practice, however, it does not seem that this instruction can have any great civic value; certainly not the value that should reasonably be expected of it. The work is chiefly memory drill. The pupils carry away with them, at least until examination time, a more or less organized and accurate fund of information regarding the events of American history as described in the text and occasionally illuminated by the teacher. Doubtless many of them are more or less inspired with a pride in their country and with the ideals represented by some of our national leaders. But, as in the case of the eighth-grade civics, the observer gained the impression that the pupils were acquiring, in the main, mere word knowledge. The catechetical question-and-answer method was everywhere in use, and examination day was the goal. (See pp. 17–20.) Most of the classes were passively receptive, and where there was evident interest, it seemed to be an interest due to eagerness to “ get the right answer ” rather than in the significance to the pupils of the subject matter itself. This applies to the biographical study of the fifth grade as well as to the more formal history work of the sixth and seventh grades.

“ Current events ” are said to be discussed more or less regularly in the higher elementary grades, but little evidence of this work was seen in the last weeks of the term. Questioning the pupils in various classes in geography, history, and civics rarely elicited any evidence that these subjects were vitalized by any constant relation to current events in the world's history. Current events can not be said to be an important factor in the civic education of Memphis children at present.

As for the other subjects in the elementary curriculum, there is none with a definitely civic content or in which a civic aim is obvious, except on the general assumption that the more knowledge a pupil acquires in any subject the better citizen he may be.

A. CIVICS IN THE GRAMMAR GRADES.

The obvious purpose of the instruction in civics in the eighth grade of the Memphis schools is to lay a foundation for intelligent citizenship. This end is sought by giving the pupils a fund of information about government, the scope and character of which is indicated by the following typical lists of examination questions:

EXAMINATION OF JUNE 6, 1917, GRADE 8 ONE.

1. Tell what the State government does for education.
2. What is the purpose of taxation?
3. What is meant by a franchise tax?
4. What do you understand community progress to mean?
5. What are the departments into which the State government is divided? Explain each.
6. Tell how a measure becomes a law.
7. Describe the powers and duties of the governor.
8. Explain the difference between the grand jury and any other jury you know about.
9. Explain fully what constitutes the county court.
10. Describe the character of the work done by the county court.

EXAMINATION OF JANUARY 24, 1919, GRADE 8 TWO.

1. (*a*) Name the different courts of Tennessee. (*b*) Why is the supreme court the chief law-making body of the State?
2. (*a*) What is a county? (*b*) Name five county officers. (*c*) How are the affairs of the county managed?
3. (*a*) Name two systems of city government in Tennessee. (*b*) State two advantages of each.
4. (*a*) Give the qualifications of voters in Tennessee. (*b*) Tell how a vote is cast.
5. (*a*) Name two ways of nominating candidates for office. (*b*) State the advantages of each.
6. Give five reasons why a national government is necessary.
7. (*a*) State the main differences between the Articles of Confederation and our national Constitution. (*b*) How may the Constitution be amended?
8. (*a*) What taxes support the Federal Government? (*b*) Why is it necessary for the General Government to control coinage?

9. (*a*) How is the President elected? (*b*) How are Senators elected? (*c*) What is meant by the "committee system" in Congress?
10. (*a*) Why should the presidential term be longer than four years? (*b*) Name the Cabinet positions.

Doubtless the information for which these questions call is "useful" in a general or collective way, and is of a kind that adult citizens may be supposed to possess. Much of it young citizens may be expected to acquire in school. But the usefulness of information is relative, and depends upon many things—among others, whether it is correct or not and, again, whether it really becomes a part of the working capital of the citizen.

During the four weeks in which the inquiry into civic education in the Memphis schools was in progress no opportunity was afforded to observe class work under normal conditions, for all classes were engaged in reviewing the work of the term, in preparation for final examinations. This review was based almost entirely upon lists of questions, similar to those above, that had been used in examinations of preceding years. The predominant aim of the instruction throughout is to drill into the memory of the pupils information presumably "useful" to the citizen. How useful it is may best be judged if we have before us typical examples of work seen in Memphis classrooms. There follows a stenographic report of a recitation in the eighth grade. The recitation reported was selected at random.

A STENOGRAPHICALLY RECORDED LESSON IN EIGHTH GRADE.

TEACHER. Since I am writing up these questions on the board I will hereafter write them up early in the morning, and you can copy them when you have a few minutes to wait as you did this morning.

(The following questions are written by the teacher and copied by the pupils to be studied for to-morrow's lesson.)

1. Mention some ways in which a city government protects life against accidents.
2. Explain the right of trial by jury.
3. What are the different kinds of taxes?
4. Mention some ways in which a city government protects the property of citizens.

TEACHER. I put some questions up yesterday, and we will answer them now. Sam, name the different departments of the Government.

(Children read replies from written answers.)

A. There are three divisions: Legislative, executive, and judicial. Legislative makes the laws, and the executive sees that the laws are carried out, and the judicial determines what the laws mean.

Q. How have you answered yours, Austin?—A. The legislative department makes the laws, executive sees that the laws are carried out or executed; third, the judicial determines what the laws mean as applied to a particular case.

Q. What is the constitution? Name two reasons why a constitution is necessary.—A. The constitution is a document planned by the people and outlines the aim of the State government. It is needed to designate what officers shall be chosen and when they shall be chosen.

Pupil. We couldn't find it in our book.

Teacher. Turn to that lesson in your book and let's see. I thought I marked that off. You will find it on page 99. Read through the paragraph—read it to yourself, and then tell me why a constitution is necessary. Yesterday is the first day that I let you find answers for this. I have done this in two or three history classes, but each day when I give you these questions you must read over the topic in which the answer occurs, and I think that will be better than having a regular review. Now, read it out loud, how Tennessee became a State.

(Pupil reads paragraph concluding "At that time Congress required that a Territory should have a population of only (over?) 60,000 before it could be admitted as a State.")

Q. Wait a minute. How were these Territories governed up to that time? Why was it necessary that they should become a State? Why did they desire to become a State?—A. Because, if they were a Territory, Congress had the whole control. Gov. Blount called a convention to meet in Knoxville, January, 1796. This was called to determine how Tennessee should be governed when admitted to the Union as a State.

Q. Why would the people need a written constitution?—A. Because they could refer to it whenever they needed it.

Q. What is a constitution?—A. It is a written document framed by the people.

Q. Have we anything in this school anything like a constitution?—A. Yes; the book of rules.

Q. And every month the teacher reads the rules and regulations of the school. She only reads the rules and regulations in regard to the pupils' conduct. There are rules and regulations regarding the care of the building, custodian's duty, principal's duty, teachers' duty, and each member of the board of education's duty, and this can be referred to at any time to know exactly what the duty of each individual connected with the school is. This constitution is nothing in the world but a book of rules for the conduct of the people of the State. Now, what is it that really carries out the constitution? I don't mean carries out the constitution. I mean how do we usually know? Could you go to the constitution of Tennessee and find out very much about it?—A. No.

Q. Who usually does?—A. Lawyers.

Q. In case of emergency we usually get a lawyer who understands and knows how to get at this constitution. Now, what is the constitution?—A. A book of rules for the people of the State.

Q. Just the same as this book of rules of the city schools?—A. Yes.

Q. What is taxation?—A. Taxation is a sum of money taken from the individual by the government for the good of the government.

Q. What are taxes?—A. Real estate taxes, assessment taxes.

Q. Are those the only form of taxes?—A. No; we have a great many. License tax, income tax, corporation tax, excise tax.

Q. Since this book was written we have an income tax, war tax, stamp taxes, luxury tax, all are different forms of taxation. What are they used for?—A. They pay for the salaries of the men that are employed by the city.

Q. Tell me in general.—A. For the interest of the community.

Q. The war tax is used for the interest of the Nation, is it not? You haven't studied that. Give three ways in which taxes are used.—A. Building roads, building buildings, keeping up schools.

Q. If I want a house built, suppose I took a notion I wanted a new bungalow. Would they build it for me?—A. No.

Q. I don't think you looked up these questions as I expected you to do. Each day you should read over the topic and take out the important parts. With these on the board for to-morrow, if we don't answer them more fully, I will have to answer them myself on the board and see if you can find them out. Books closed now. Sam, what do we mean by "eminent domain"?—A. It is when the Government takes your land to run roads or build buildings or to run streets and pays you a sum of money to take your property.

Q. I think it would be better to say takes your property for a road. Any property taken for the express purpose or the interest of the community is called eminent domain. When is that most frequently used?—A. In building a road.

Q. What kind of a road?—A. A railroad.

The usefulness of the information so acquired must be seriously questioned. It is inaccurate, unorganized, incoherent.

Even if the pupils should remember the answers asked until they have possible use for them in mature life, what working knowledge of the constitution, of taxation, of eminent domain, will they then have? Pupils and teachers alike are enslaved to the textbook; that is, to the letter of the textbook, while far afield from its spirit as proclaimed in its preface:

> The arousing in the pupil's mind of a spirit of interested inquiry in the affairs of government is of far greater value to him than the knowledge of many unimportant details of governmental organization. Formal question-and-answer recitations should, therefore, be used sparingly.

DOMINANCE OF THE TEXTBOOK.

An illustration of the dominance of the textbook is taken from another class where the organization of the legislative machinery was under consideration. After having related certain facts regarding the legislative organization of the county, the pupils, in answer to questions asked by the teacher, described the "city council," dwelling in detail upon the method of electing "aldermen" by wards, and similar information. As the class was about to pass on to the consideration of the State legislature, the observer inquired, "What city have you been talking about?" The answer was, "Memphis." It then required a series of questions from the observer to elicit finally from one boy the statement, "Memphis doesn't have a city council; it has the commission form of government."

A suggestive incident in the recitation reported above appears in the discussion of taxes and taxation. The teacher remarked, "The war tax is used for the interest of the Nation, is it not?" And then added on second thought, "You haven't studied that"; and passed on to another question, "Give three ways in which taxes are used," to which the answer was, "Building roads, building buildings, keeping up schools." It is almost inconceivable that an eighth grade class in civics should have touched the subject of taxation in war time without having studied the war taxes at least sufficiently to have answered the question originally asked. But it was characteristic of the civics instruction observed in the eighth grade that it had almost no relation to the realities which have entered more or less into the pupils' experience.

This kind of instruction is by no means restricted to the civics work. It is practically universal in the Memphis schools. In a class in spelling a list of 15 difficult words was spelled without a miss, but the observer could not find a pupil in the class who knew the meaning of any of them. "Name the important products of Tennessee," was the question in a geography class. In the list of 8 or 10 given in response, including "vegetables," no mention was made of cotton or hardwood. In another geography class the question was, "Where is Europe?" Several pupils were passed before one was sent to the head of the class for saying, "West of Asia." As the teacher's next question was irrelevant to the first, the observer remarked, "Since I may want to go to Europe, I shall have to know where Asia is. Where is it?" No answer was forthcoming to this question until the teacher relieved the situation by remarking, "Ask them in what *hemisphere* Asia is"; to which a pupil at once replied, "Eastern Hemisphere." The observer persisted with another question, "Where is the President of the United States now?" A dazed silence followed, broken finally by a boy who ventured, "In the White House at Washington." Though others then opined that the President was "in Paris" or "in France," it seemed obvious that there was no relation in the minds of these young citizens between the Europe of the geography book, located by stereotyped phrases, and the stirring events of the present.

The pupils of Memphis are thus gaining a certain amount of *information*, such as it is worth, but very little training of the *intelligence*. They will doubtless forget much of what they learn long before they reach maturity, because they really learn nothing more than words. Moreover, they are given no motive for remembering beyond examination time. To these boys and girls the examination constitutes the chief, if not the only "usefulness" of the facts learned. They would even forget the English language before they reached maturity if they had no use for it in the interim.

PUPILS' CONCEPTION OF CITIZENSHIP.

Of course, when asked why they are studying civics, pupils answer, "To be good citizens." But even this is little more than one of the phrases they have acquired. In one civics class the pupils had been discussing "citizenship" in terms of the fourteenth amendment. After they had clearly stated that a person must have been born in the United States, or naturalized, in order to be a citizen, and that all persons so born or naturalized *are* citizens, the observer asked the class when *they* would be citizens. From one after another the answer came, "when I am 21." This was an exceptional case, for in other classes the pupils generally admitted their present citizenship. But in spite of this they were universally puzzled by the question, "What does it *mean* to be a citizen?" A common answer was, "To have the right to vote." "But have *you* the right to vote?" "No." Another frequent reply was, "To obey laws." "But if you are driving on the street and violate the speed laws, do you cease to be a citizen?" "No."

The conception of citizenship as something that pertains solely to adult life rather than as a present and important reality during childhood and youth is, in fact, the source of most of the defects in the civic training afforded by the Memphis schools. It results in a cramming process, in the attempt to fill the mind of the youthful citizen with information which (it is hoped) will come to the foreground of consciousness when occasion arises in later years for its practical use. The measure of the "usefulness" of information to young citizens is primarily the degree to which it shapes their present attitude of mind and their present practice and otherwise determines their civic growth. The successful teacher of the young citizen will be like the gardener, who is, of course, concerned about his future crop, but who knows that the future crop will take care of itself if the present needs of the growing plant are properly provided for. Information useful in this sense will be useful in the future; and unless it is useful in this sense, there is little likelihood of its being useful in the future.

DEVELOPING A WHOLESOME ATTITUDE TOWARD GOVERNMENT.

There are certain fundamental ideas about government that every citizen should understand. The young citizen should be made to understand them, because of the effect the knowledge will have upon his present attitude toward government and toward his community relations. For example, if he is to have a proper attitude toward government, he must comprehend the idea that government is our means of securing teamwork in the pursuit of common ends. He must also understand the nature of these common ends, and the fact that he and all other members of the community are dependent upon one another for their fulfillment; the necessity for organization and leadership in securing teamwork, and that this is what government should provide; and that, in a democracy, the organization and leadership by which teamwork is secured must be under the people's control.

These are the fundamentals that young citizens need to be taught, whereas most of that which is taught in the Memphis civics classes is mere detail—such as the methods of electing Presidents and legislators and city officials and school boards, of enacting laws, of meting out justice, of condemning property under the right of eminent domain, of enacting constitutions. Such things should doubtless be taught, but they will be *learned* only in their relation to these more fundamental ideas.

If citizens, young or old, can be made *to feel* the truth of these principles, it will be the best possible assurance of a wholesome attitude of mind, now and in the future, toward government and toward their own relations to it and to the community. It will tend to stimulate an interest in community organization and therefore a spirit of inquiry. It will simplify the teaching of such traits as obedience and loyalty, because it will give to them a new meaning and make of them a logical result of the common interest.

Fortunately it is possible to teach these principles to young citizens, because it is possible to demonstrate them in the concrete terms of the young citizens' own experience. There is not a playground, for example, in whose activities it is not possible to prove the existence of common interests and the importance of recognizing them, the dependence of each individual and group upon others, and the advantage of organized cooperation under controlled leadership. These principles hold in the relations of the home and of the school; in the activities of the Boy Scouts, of war gardening, and of every other enterprise where people have dealings with one another.

MEMPHIS FULL OF CONCRETE MATERIAL.

In fact the young citizens of Memphis are living in a community that is teeming with illustrations familiar to their experience. To take an instance to which reference has already been made, note the growing recognition of the common interests among the people of the larger Memphis territory, the interdependence of city and country and of the different kinds of business within the city, the organized cooperation provided for under the leadership of the farm bureau of the chamber of commerce. Or, again, to what extent is education a common interest and a common purpose of all the people of Memphis (or of Tennessee)? To what extent do the people recognize this common interest? How far are all groups and classes dependent upon one another for the attainment of the common purpose? How well do they "pull together"? In what manner do the city and State boards of education assure this teamwork? Is competent leadership provided for, and how? How well do the methods of election or appointment of the school authorities secure wise leadership? Do the people of Memphis and Tennessee maintain control over their educational system, and how? And why should there be such control? If the civics instruction in the Memphis schools is really to cultivate an intelligent citizenship, such questions as these applied to every aspect of the community life in which the children participate are vital. In the pursuit of the answers more real knowledge with respect to governmental organization will be acquired and remembered for life than can possibly be the case by the cramming process now in vogue.

It is not to be inferred from what has been said that civics instruction, even in the elementary schools, should be restricted to the purely local. It is only meant that the larger and more remote problems of government and citizenship can be understood by the inexperienced citizen only when they are interpreted in terms of experience familiar to him. The war period vividly exemplified the importance of the principles mentioned in their application to national and international life. But they apply at all times. The constitution, taxation, eminent domain, Congress, the courts, the administrative departments of government may be made alive with meaning to young citizens when interpreted in terms of principles which determine the success or failure of home life, of school life, of play activities, and of community enterprises going on at all times under their eyes.

Mr. Herbert Quick, in advocating a vitalized education for rural schools, says: "Let us cease thinking so much about agricultural education and devote ourselves to educational agriculture. So will the Nation be made strong." So, in their efforts at civic training, the schools of Memphis will be successful in proportion as they make educational the present actual community relations and experience of their young citizens.

An outline is given on pages 25–33 to suggest more explicitly a kind of instruction that will serve this end. Its presentation is deferred, however, until the other social studies of the grammar grades, with which it should be closely correlated, are examined.

B. CORRELATION OF AMERICAN HISTORY AND GEOGRAPHY WITH CIVICS IN THE GRAMMAR GRADES.

The instruction now given in American history in the elementary schools of Memphis is briefly but sufficiently characterized on page 15 of this chapter.

The study of American history and of civics should be closely correlated in the grammar grades, because, first, the history may be made to reinforce the civics, and because, second, the civics, (always meaning the vitalized type of civics recommended in the foregoing pages) affords a basis for the interpretation of the history. Interpreted in terms of the pupils' experience, the story of our country's growth can be made vastly more interesting to them than it now is, and much more of it will be remembered. American history is but the story of the growth of our national community and of its component parts. It is the story of the evolution or realization of common national purposes; of a growing interdependence within the Nation and as between our Nation and the rest of the world; and of the gradual development of the spirit and the means of national cooperation. American history has been studied to little purpose if it does not make clear to the student the truth so important for every citizen to understand, that the ideals of an efficient democracy are a goal toward which we have been haltingly but persistently striving from the beginning.

It is recommended that, in order to achieve the best results from both the civics and the history of the grammar grades, the two subjects be carried together through both seventh and eighth grades according to some such plan as that suggested by the outline which follows. (For the history work of the sixth grade, where at present the textbook study of American history begins in the Memphis schools, see pp. 46, 47). At the same time the geographical factor in history and in present-day social life should be recognized throughout. At the present time there is no more correlation between the geography and the history than between the history and the civics. The best time to study American geography is when the pupils have use for it in its bearings upon American history and American economic and social life.

At the present time one period a day is given in the seventh grade to each of the subjects geography and American history, and in the eighth grade to each of the subjects geography and civics. Thus two periods a day during the two years are given to these three subjects, all of which have a rich social content and great value for the purposes of civic training. They are taught as distinct and separate subjects, with no correlation, and their civic value is almost wholly lost because of their extreme bookishness and their irrelevance to the life interests of the children.

COMBINE HISTORY, GEOGRAPHY, AND CIVICS IN SEVENTH AND EIGHTH GRADES.

It is now proposed that throughout the two grammar grades one period a day be given to a "social study" which will include both civics and American history, with strong emphasis upon the geographical factor which enters into both of these subjects. An adequate treatment of the three subjects can be provided for in this way at great economy of time, while their value and interest will be greatly increased. A course in general science is recommended for the eighth grade in another chapter of this report (Part 4), and in connection with this course further opportunity for geographical study may be found. This arrangement will necessitate some reorganization of the geography of the earlier grades.

As to the time allotment for the civic, historical, and geographical aspects of this "social study," it is suggested that the general plan provide for approximately two days per week for the civics in the seventh grade and three days per week for the history; and in the eighth grade for about half the time for each subject. Geographical study will enter wherever and whenever it is appropriate. In practice, however, much will be gained if any one of the aspects (civic, historical, geographical) be emphasized on any day, or at any time, that seems most appropriate or workable.

The arrangement above suggested may seem somewhat confusing to teachers inexperienced in it, but a study of the following outline will make its practicability more apparent, for the same essential ideas run through both the civics and the history. It is suggested that at the opening of the seventh-grade work several days be devoted consecutively to the first few topics in the civics outline, and that the beginning of the history be deferred until after this preliminary study. By this procedure the pupils will acquire in familiar terms certain ideas that will give life to the historical facts, while the latter will reenforce the civic principles.

Possibly an easier way for many teachers would be to complete the seventh-grade civics outline in the first few weeks of the year, and then take up the history study. But the easiest way is not always the most effective.

OUTLINE OF SOCIAL STUDY FOR GRAMMAR GRADES.

Seventh Grade.

CIVICS.

General Theme.—To accomplish the purposes common to all of us in community life there must be teamwork. Government is the community's means of securing this teamwork.

I. *What is "our community"?*

Any community consists of *a group of people,* living together in *a common locality,* and *working together* (teamwork) *in an organized way* (with government and laws) *for common ends.*

Apply this definition to the school, the home, the neighborhood, the city of Memphis, Shelby County, Tennessee, the "Memphis territory," the United States, the entire world.

The size may vary in number of people and in territory; but there must always be common purposes and organized teamwork.

Smaller communities are combined into larger ones; the classes into a school, neighborhoods into a city, city and rural communities into a county, States into a nation, etc.

II. *What is citizenship in a community?*

The idea of "membership."

For example, the "members" of the body. Members get life from the body, and give life to it. The body dependent upon its members, the members upon the body and upon one another. Apply this idea to "membership" in class, in school, in home, in club, in church, in the community, in Memphis. This is citizenship. Definition of the citizen in fourteenth amendment. This includes all—boys and girls as well.

III. *The beginning of the community of Memphis.*

The early settlers. Who they were. When, whence, how they came. Why they came—common purposes.

The land they occupied—extent and fitness for community life. How it determined the character and growth of the community.

Were they more or less dependent upon one another and upon the outside world than the people of Memphis to-day? Prove statements.

Teamwork, organization, leadership, in pioneer days.

The beginnings of government.

IV. *Teamwork presupposes common purposes.*

Prove the nature of these common purposes.

The Declaration of Independence sums them up as "life, liberty, and the pursuit of happiness."

Secretary Lane says, "Our national purpose is to transmute days of dreary work into happier lives."

In everyday language, "days of dreary work" refer to the purpose of *earning a living,* the *economic* purpose.

A "living" includes the satisfaction of our *physical, spiritual,* and *social* wants—*life and health, knowledge, beauty, companionship, religion.* All of these are involved in "happier lives," or in "life, liberty, and the pursuit of happiness." They represent the purposes of each person and each community.

(This classification gives a good working basis for later work. It is easy for the children to demonstrate that all that they do, all that their parents do, and all the activities they see going on about them, are for the purposes indicated. The application to national life and history will be seen later. Success with this line of thought depends upon *observation, analysis of experience,* and *discussion* on the part of the pupils.)

Prove the existence of common purposes.

In the home, in school, on the playground, in our Nation during the war, in Memphis, in the "Memphis territory," etc.

Conflicts in community life are due largely to failure to recognize and understand common purposes.

That community is best to live in that provides most adequate opportunity to fulfill these purposes.

V. *The people in communities are dependent upon one another in accomplishing these purposes.*

Prove this from observation or from reading in relation to getting a living, getting an education, preserving health, the protection of property, in play activities, etc.

Show how interdependence exists in the family, in the class or school, in the neighborhood where the pupil lives, among the different sections, groups, and industries of Memphis, as between the people of Memphis and those of the surrounding region, in the Nation and among the nations during the war, etc.

(The purpose at this stage of the study is to get these elemental ideas *planted* in the minds of the pupils. The application of these ideas will be continued throughout the study. At present the important thing is to make the ideas concrete by means of varied illustration, much of which should already be familiar to the pupils.)

VI. *Cooperation (teamwork) is necessary when people are interdependent for the fulfillment of their common purposes.*

Prove this, as in the case of the preceding topics, by positive and negative illustrations drawn as largely as possible from the pupils' observation and experience.

VII. *Effective cooperation necessitates (a) organization and (b) leadership.*

Prove: In athletic sports, in the school, in the home, in father's business (consult father), in the business life of the city, in keeping a neighborhood clean and attractive, etc.

Illustrate: Unorganized group action, as in a mob, compared with organized group action, as in the police or the Army. The crowd at a fire as compared with an organized fire department. Bring in a list of agencies for organized cooperation in Memphis: Chamber of commerce, labor unions, women's clubs, Boy Scouts, Girl Scouts, Red Cross, thrift clubs, etc.

Are there leaders among the pupils of the school? Name leaders in various activities of the city of Memphis.

VIII. *Government provides organization and leadership for the entire community—city, county, State, Nation.*

(It will be one of the chief purposes of the entire two-year course in civics to show how far this is true. At this time it is desired only to "set the idea." No systematic study of government is yet to be made, but only abundant illustrations to test the truth of the topic.)

How the fire department provides for community cooperation.
How the National Government secured cooperation in war time.
How taxation is a means of cooperation.
How laws secure cooperation.
How the Treasury Department of the United States Government secures cooperation by means of a money system, banks, etc.
How the people of Memphis cooperate in building a schoolhouse, etc.

IX. *Importance of the land in community life.*

Intensive study of the geography of Memphis, the "Memphis territory," and Tennessee *in its relations to the common purposes.* (How the land entered into the economic life, the social life, the intellectual, esthetic, and religious life of the community.)

X. *The home as a community.*

The pioneer home in Tennessee—how it met the wants (purposes) of its members.

Compare with the Indian family life of the early times.

Compare with the modern Memphis home as to—
The common purposes;
The interdependence of its members;
Its dependence upon others;
The completeness of cooperation;
Its leadership;
The responsibility of each member.

XI. *The home as a factor in the larger community life.*

- How the home gives permanence to community life.
- The service of the pioneer home to the Nation.
- Do people in Memphis largely own their homes? What difference does it make?
- The dependence of Memphis upon its homes for economic well-being, thrift, public health, education, beauty of the city, etc.
- The home a "school of citizenship."
- What the government does for the home.

Seventh Grade.

HISTORY.

AMERICAN EXPLORATION, COLONIZATION, AND INDEPENDENCE.

I. *The period of exploration and discovery.*

1. The "world community" of Columbus's time. (Opportunity for valuable geographical study.)
    - Extent of the then known world.
    - The "national communities" then most prominent.
    - Extent to which the national communities and parts of the world were interdependent. The sources of the world's supplies.
    - Trade routes and means of travel and communication. Influence on interdependence and cooperation.
    - Interests (or purposes) common to all nations and peoples (identical with our own to-day; see civics). Predominance of economic, religious, and scientific motives (desire for knowledge). How about the physical well-being, the social relations, the esthetic interests of the different nations? (State of medicine and surgery, feudal and caste systems, art, etc.)
    - Extent to which nations cooperated in those days.
2. Explorations and discoveries.
    - Motives that inspired Columbus and other explorers. Predominance of economic, scientific, religious motives.
    - Individual explorers and their work. Importance of leadership.
    - Geographical study of the world and especially of America as unfolded by the explorations.

II. *Colonization.*

1. First settlements of the American Continent (Spanish, Portuguese, French).
    - Geography of these settlements.
    - Predominant motives of each. Make comparisons.
    - How relations with the land were established (hunting, trading, gold hunting, agriculture, etc.). Compare with the relations held by the Indians.
2. English colonization.
    - Motives that led to English colonization.
        - Adverse conditions in England (economic, religious, social, arbitrary government, etc.).
        - How they expected to better conditions in America.

Geography of colonization (New England, Southern, Middle).

  How relations were established with the land.

  Why agriculture gives greater permanence to community life (compare with Spanish and French occupations).

Interests that bound the three groups of colonies together.

Interests that caused conflict:

  Poor transportation and communication.

  Land disputes.

  Economic differences.

  Religious and social differences.

Importance of home building in colonization and efforts to secure it.

Development in each group of colonies along lines of each "interest" or "purpose:" Economic; physical well-being; social life (recreation, amusement, etc.); education, science and literature; religion; aesthetic; care of the unfortunate, etc.

Growing interdependence and causes.

Development of government as a means of cooperation.

  Local, colonial, intercolonial, relations with English Government.

  Direct and indirect control by the people over their Government.

  Conception of democracy.

Conflicts with other peoples, and causes.

  (*a*) Indians.

    Land difficulties.

    Difference in mode of life.

    (The study of the Indians in American history is usually perfunctory and uninteresting. It may be made interesting and valuable by way of comparison. They had the same common interests in life, but different methods of providing for them—economic life (occupations)), religious life, notions about the world, social customs, home life, organization and leadership (chiefs, sachems, etc.), tribes, clans, confederations.)

  (*b*) Spanish—where, when, why?

  (*c*) Dutch and Swedes—where, when, why?

  (*d*) French—where, when, why?

III. *Independence—the birth of a national community.*

Common purposes of all English people. Development of democracy in England.

Causes of the Revolution: Conflicts of interest—

  Between Colonies and mother country.

  Between classes (or parties) in England.

Was the English Government a serviceable means of cooperation? Was its leadership controlled by the people of England? What part in it did the colonists have?

The difference between autocracy and democracy. Compare the English Government of that time with that of Germany in 1914.

The war and independence—

  The infringement of what interests or "rights" brought on the war? Give the incidents.

- The Declaration of Independence—
  - The "inalienable rights," "life, liberty, and the pursuit of happiness." (Compare same topic in civics.)
  - The development of teamwork among the Colonies for the one great purpose.
    - Organization and leadership: Military; civil; Continental Congress.
    - Obstacles—
      - Failure to understand common interests.
      - Nonsympathizing groups (tories; compare with recent war).
      - Transportation and communication.
      - Lack of leadership in the Government.
- The winning of independence—
  - In what respect?
  - Is America independent of England to-day in economic matters?
  - Is England independent of America in economic matters?

After the Revolution—

- The territory of the new Nation and its neighbors.
- The Government of the new Nation: The central government; the State governments.
- The "critical period"—
  - Continued conflicts of interest and lack of teamwork.
  - Growing recognition of interdependence.
  - The necessity for a stronger Government recognized.
- The Constitutional Convention and the Constitution—
  - The leaders.
  - The nature of the Constitution (not a detailed study at this time, but an explanation of its important features in the light of the principles controlling throughout this study).
    - The preamble.
    - The new national idea.
    - Hopes and fears regarding the new Government (arguments for and against).

Eighth Grade.

CIVICS.

General themes: The service of Government in securing teamwork in accomplishing the purposes of people in communities; the organization of Government to secure leadership and popular control, efficiency and democracy.

I. *Brief review* of the essentials of community life as last term.

II. *The service of Government in securing teamwork.*

("Teamwork" involves responsibility on the part of the "members of the team." It is in assuming this responsibility that the character of citizenship is shown. This idea should be prominent throughout.)

1. In earning a living (the economic purpose). (Start from the interest that boys and girls of this age almost always have in this subject.)
   - Earning a living involves service to the community.
   - Responsibility for wise choice and preparation.

- Responsibility of community to afford opportunity for wise choice and for preparation.
- Independence *versus* interdependence in earning a living—in pioneer days; at the present time, in Memphis; increasing specialization.
- The necessity for teamwork—Within a given business or industry; among different businesses and industries.
- Voluntary organization for business purposes—
  - Business corporations, etc.
  - Chambers of commerce, labor unions, etc.
- The service of government. (Consider always local, State, and National Governments.)
  - Laws to protect and regulate.
  - Money, banks, etc.
  - Departments of the city government that relate especially to business life.
  - Departments of State government for the same purpose.
  - Departments of the National Government—
    - Treasury Department.
    - Department of Commerce, of Labor, of Agriculture, of the Interior, etc.

(In all this work the pupils should not be limited to textbook. Note what is going on in Memphis, and use newspapers, etc.)

2. The conservation of natural resources.
3. Thrift from a personal and national standpoint.
4. Transportation and communication.
   - Importance in community life (local and national) as a means of cooperation.
   - Service of the Government—Roads and streets; transportation control; Postal Service, etc.
5. Protection of property and property rights.

(All the above topics, 1–5, relate to the economic interest, or to the activities connected with earning a living. It is essential that the study be directed toward the real activities of the city or Nation, and not be merely a mechanical study of the text.)

6. The conservation of life and health.
   - Physical fitness as a civic necessity. (What are the facts regarding the physical fitness of Memphis school children? Of the men drafted into the Army from Tennessee? From the country as a whole?)
   - Interdependence in matters of health and accident.
   - Voluntary cooperation for health conservation in Memphis; in the United States.
   - Governmental service—
     - Local board of health, work of the schools, etc.
     - State board of health, etc.
     - Work of the National Government—
       - Public Health Service.
       - War Department.
       - Department of Labor.
     - Dependence of results of Government work on cooperation of the citizen and of the home.
7. Education and the promotion of knowledge.
8. Recreation and social life.
9. Pleasant and beautiful surroundings.

10. Religious life and agencies.
11. How the community deals with dependent, defective, and delinquent citizens—Through voluntary agencies; through governmental agencies.
12. Taxation—Cooperation in meeting the cost of Government.

III. Organization of government to secure leadership and popular control—efficiency and democracy.

(It is important not to allow the following study to lapse into the formal, mechanical methods of the present time. Study each feature of governmental reorganization and procedure from the point of view of its adaptation to the ends required in a democracy—cooperation, efficiency through leadership, democracy through popular control.)

How we govern ourselves—the general and essential features of American government, such as—
    Direct and representative government.
    The threefold character of government—local, State, and National.
    The checks and balances.
    The suffrage.
    Methods of nomination and election.
    The party system as a means of cooperation. How it promotes and obstructs democracy and efficiency.
    Extragovernmental leadership—the political "boss" and "machine."
    The gradual evolution of democracy.
Local government—city and county.

(A profitable and interesting way to handle this subject is by setting a problem, such as, "Why was the form of government in Memphis changed from the old form to the commission form." Or, "Why it is proposed to adopt the city manager plan of government for Memphis." Arguments pro and con should be obtained not only from the textbooks, but also by consultation at home and with friends, and by reading newspapers, etc.)

The State government.
The National Government.
International government.

Eighth grade.

AMERICAN HISTORY—THE GROWTH OF OUR NATIONAL COMMUNITY.

Introduction.—Our national community at present: The people, the land, the common purposes, the interdependence of its people and parts, the need of cooperation. A few days may well be spent in a review of the present elements of our national community life as developed in the civics of the seventh grade and contrasted with the period at the close of the Revolution described at the end of the seventh-grade history. This glance at the present affords an objective for the history work.

The point of view and the spirit of the civics and of the seventh-grade history should be maintained as consistently as possible.

Throughout the various well-marked periods of national development the following topics, relating the subject clearly to the civics work, should be among those clearly emphasized and followed through:

Growth, development, and organization of territory.
Growth and changing character of population.
    Immigration—Motives; problems presented by.
    Growth of cities: Urban and rural distribution.
Economic development—agriculture, industry, commerce.

Transportation and communication.
Physical well-being of the people.
Intellectual progress—science and invention; literature, the press, etc.; education.
Æsthetic, social, and religious life.
Sectional development and sectional differences and their results (including the Civil War).
States' rights and the tendency toward nationalism.
Development of democratic ideals and agencies—on the side of equality of opportunity; on the side of increasing self-government.
Development of governmental forms—State and National.
Political parties, their function and methods.
International relations.

The correlation of subjects in the grammar grades for civic ends should not stop here. The language work affords abundant opportunity for civic instruction. The subject matter of the above outline affords rich material for oral and written composition and for debate.

Personal hygiene and public health are two aspects of the same thing. They can not be separated in actuality, and they should not be separated in instruction. Correlation here should be very close.

Even arithmetic presents its opportunity for civic instruction. Pupils may get as much practice in the principles of percentage from problems like the following, taken from real life in a certain city, as from the monotonous and often meaningless problems of most textbooks, while the problems have at the same time clearcut civic and geographical connotations:

During the year 1910 there were 3,520 patients treated at the city hospital. Of these, 7 came from Bulgaria, 12 from Greece, 15 from Hungary, 24 from Macedonia, 1 from Montenegro, 36 from Roumania, 33 from Servia, 1 from Turkey. What per cent of all patients came from the southeastern part of Europe?

During the year 1910 the fire department responded to 1,402 calls. During the year 1911 it responded to 1,700 calls. What was the per cent of increase in calls for 1911?

C. TRAINING FOR CITIZENSHIP IN THE FIRST SIX ELEMENTARY GRADES.

The success of the civic training in the grammar grades will depend largely upon what happens in the preceding grades. A clue is afforded to the direction that civic training must take in these grades if we bear in mind, first, the fact that these younger pupils are *growing* citizens, and not merely *prospective* citizens; and, second, the three aims of civic education—civic intelligence, civic motives and ideals, and civic traits and habits. (See p. 14.) Doubtless many influences are at work in the elementary schools that make for good civic character; but it must be said, on the other hand, that the schools of the city not only fall short of their opportunity in this matter, but even cultivate habits that are inconsistent with good citizenship and efficient democracy.

INITIATIVE NEEDED IN GOOD CITIZENSHIP.

One of the most essential characteristics of good citizenship in a democracy is *initiative.* Yet in the Memphis schools, initiative is constantly, if unconsciously, repressed. This repression manifests itself in a multitude of ways, among others in the rigid adherence to the textbook and in the catechetical question-and-answer method of conducting recitations. Pupils seldom ask questions; and when they do it is likely to be, as in one case observed, because the teacher *tells* them to question one another, and the questions which they then propound are formal textbook questions in imitation of the teacher's questions, and not spontaneous endeavors to find out something they *really want to know.* Very little group activity is seen, of the spontaneous and interested kind to encourage individual initiative and cooperation—that other essential to efficient democracy. The "socialized recitation," in which the pupils are given and joyfully accept a large share of responsibility for the conduct of the recitation, is practically unknown.

THE WORK OF THE JEFFERSON STREET SCHOOL.

It would be interesting to know how far the repression of initiative in the elementary schools of Memphis is responsible for the attendance at the Jefferson Street School (the Juvenile Court and truant school). There can be little doubt that it is at least a factor in both truancy and juvenile delinquency. On the other hand, one of the prerequisites to success in such a school is freedom of initiative under guidance; and, in fact, one of the differences first to strike the observer in comparing the Jefferson Street School with the regular elementary schools of the city is the greater degree of initiative allowed to the pupils in the former. Under methods such as prevail generally in the elementary schools of Memphis, one of two things will happen to the pupils: Either they will submit more or less docilely to the "system," or they will "kick over the traces," play truant, engage in escapades that result in "disciplinary" measures, and seek a vent for their initiative outside of school, sometimes in directions that lead to delinquency. The great mass of the children yield submissively to authority. In the case of the exceptions, initiative needs to be *guided* and not repressed; while in the case of the great majority, it needs stimulation as well as guidance. (See Part 7 of this report, "Health Work," section on Mental Status of Children, for further treatment of this subject and illustration of the point suggested in this paragraph.)

The lack of opportunity for such self-activity in those schoolrooms where obedience to authority is the chief principle emphasized may well account for the fact that the most successful pupils, judged by the ranking they attain, are by no means certain to be found in later life among the most useful and influential members of the community. Children who are naturally the most docile and imitative make the readiest response to authority, and hence are the most successful where the requirements are mastery of subject matter taught by authority and unquestioning obedience to rules laid down by the powers that be. On the other hand, the children with the greatest capacity for initiative and self-direction, finding in the school life small outlet for their self-activity, turn their main attention to matters outside of school. In this way they often secure for themselves such practical education in the various fields of social life as enables them to excel, in later life, the mature achievements of the citizens who took the prizes of their school days. The school, however, has in such cases lost its opportunity to make the most of the best material for citizenship in a democracy. It has neglected to encourage in its pupils of greatest promise the practice of initiative guided by useful social ideals, and has left to chance the cultivation and direction of this most desirable civic trait.[1]

The Jefferson Street School is performing invaluable service for the community and for the exceptional pupils in its charge. handicapped, however, by most adverse conditions. With a shop in the basement, well equipped with benches and tools, the boys of the school are denied this peculiarly important channel for the expression of initiative through failure to provide a shop teacher. A small cottage on the school grounds, formerly used for the practical training of the girls in household economy, has been turned over, in the name of economy, to occupancy by the janitor's family. Pending more adequate arrangements, which should not be deferred, why not allow some of the best-trained boys in the Vocational High School to render service in the Jefferson Street School shop? The principals of both schools gave this suggestion their eager approval, and the plan would be of great educational value to all concerned.

THE PROBLEM OF DISCIPLINE.

In the Memphis schools a great deal is heard about the need for "discipline." Perhaps the trait or habit that we most often insist upon cultivating in young citizens is obedience. The conception of discipline and of obedience which generally prevails in the Memphis elementary schools is in direct antagonism to the development of initiative. But obedience and initiative should not conflict, and will not if they are rightly conceived.

To the casual observer the order in the schools, elementary and high, seemed to be good. Few instances were observed where discipline was lacking in classrooms and corridors. In spite of this there is a pronounced feeling in Memphis, among school authorities and outside of the schools, that discipline has been lacking, especially in the high schools. A relatively small number of individual cases of misconduct, however, may easily lead to an unjust judgment in this matter.

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[1] Dunn and Harris. Citizenship In School and Out, p. 10.

It is this feeling that furnishes the chief argument to the advocates of military training in the Memphis high schools. The principals of the high schools and other advocates of military drill assert that it has already worked wonders in a disciplinary way; for example, by reducing stealing from lockers, gambling, etc. There are others, some of whom have opportunity for intimate contact with high-school pupils, who allege that the improvement is merely superficial. The truth in regard to the matter is hard to ascertain. One assertion, however, may be ventured: The discipline afforded by a military régime does not necessarily carry over into civil life, nor is it the type of discipline most needed by the youth of a democracy. Witness the recent riots in the City of Washington, in which uniformed soldiers, sailors, and marines played a leading rôle.

The comments made here are not to be taken as a denial of certain values in military training; that question is not at issue in this chapter. The point is merely that obedience to authority under a military régime does not necessarily create an habitual respect for law and an intelligent and voluntary obedience to it under the ordinary conditions of community life for the very reason that the conditions of military discipline are not the conditions of ordinary community life in a democracy. There is even a positive tendency toward a reaction to lawlessness when the rigid military restraint is removed. There is abundant evidence of this both in school and out.

The principal of one of the schools, when asked how military training reduced certain undesirable practices in the school, said in effect, "The boys are watched so closely that they have no opportunity for misconduct." The thing most needed in a democracy is self-restraint in the face of opportunity for unsocial conduct. The commandant of the high-school cadets related his experience in attempting to deal with one high-school situation. He said that the lack of order, the confusion, the hubbub in the corridors when the pupils pass from class to class, were intolerable. He therefore issued an order to the cadets to pass at such times in silence. He had no authority over the girls, and "they would talk!" Under these circumstances the boys disregarded the order. An assembly was called and the girls appealed to; but in vain. It was necessary to withdraw the order to the cadets.

It would be most unfortunate if high-school boys and girls were denied as full relaxation and opportunity for normal intercourse between classes as is consistent with good manners and the proper conduct of the school work. What they most need is experience under guidance in social conduct under the natural conditions of community life. The school should reproduce such conditions to the fullest extent possible.

NEED FOR RIGHT CIVIC HABITS.

This reference to the high-school situation is introduced here because of its bearing upon the elementary-school problem. The problem of discipline in the high school has its roots in the elementary school. If a disregard for law exists in the high schools to any marked degree, as is alleged by some, this itself suggests that the elementary schools have not been wholly successful in fixing right civic habits in their pupils. It is not to be expected that they should be wholly successful, even under the best conditions; but the experience of the boys and girls in the elementary grades is bound to be a factor in determining the character of their citizenship in the high school.

Not only many of the disciplinary problems of the high school, but also very much of the downright failure, with its consequent enormous losses, in the first year of the high school, is the result of social maladjustment for which the elementary schools are in part responsible. During eight impressionable years the pupil is brought up under a social régime in which he is given little opportunity to exercise traits that are essential in normal community life in a democracy. When he enters the high school, where there is necessarily and properly a larger freedom, less restraint from external authority arbitrarily imposed, he finds himself without habits of self-control and self-direction in new situations as they arise. An attempt is made to counteract the resulting unsocial conduct in the Memphis high schools by superimposing upon the normal high-school life a rigid military régime, which only aggravates the difficulty, instead of enriching and interpreting the social experience of the elementary school years.

Every school in Memphis should reproduce as completely as possible the conditions of the larger community life outside, in order that the young citizens may gain experience in community living and action. The school should build on the normal interests of the children and extend them. The activity which they crave should characterize the life of the school to a much greater extent than is now the case, and it should be *group* activity wherever this is possible.

IN THE PRIMARY GRADES.

In the primary grades, especially, instruction should grow out of activities, and the activities should be such as the children are naturally interested in. In an increasing number of schools in the

United States, the aim "seems to be to make of education, not a process of instruction in a variety of subjects, but a process of living, of growth, during which the various relations of life are unfolded—civic, geographical, historical, ethical, vocational, etc. In the first grade, for example, the pupil does not even study 'English' or 'language'; he merely does things, and talks about things, and hears and tells stories about things, the teacher alone being conscious that she is giving to the child his first organized lessons in civic life."[1]

Even though the school work is governed by a daily program which divides the time into brief periods, each labeled with the name of some subject of study, the invitation to a walk which is given by the beauty of a bright September day need not be denied. The teacher appropriates for the walk the 15 minutes marked on the program "nature study"; to this time she adds another 15 minutes borrowed from some other study, the "drawing" perhaps (for how can children draw till they have been taught to observe accurately, and is this not a tour of observation upon which they are bound?), and in the half hour now at her disposal she gives valuable training to the children's senses and at the same time awakens some definite interest which shall become a center from which other school work shall lead out in radiating lines for several days to come.

In short, from this walk has come suggestion and a basis in experience for most of the regular lessons until it is time, two or three days later, for another little excursion. There are likely to be physical activities, music lessons, and perhaps other exercises, which are called for by the program, but which are not related to this center of interest. It is never desirable to force a correlation. This other work comes in on its own merits, affording the children a change from the main interest of the day or week.[2]

THE SOCIALIZED RECITATION.

Above the primary grades, the subjects of the curriculum naturally become more distinctly marked, but group activity remains as important as in the primary grades. The excursion still finds an important place. In another part (pt. 2, Ch. I) reference is made to the wealth of material in and about Memphis which should be used as a basis for much of the geography work, but which is now largely neglected. The same excursions are productive of material of equal value in civics, history, language, arithmetic, etc. Dramatization should occupy a much larger place in the Memphis schools. And among the things most needed is the "socialization" of the recitation.

The socialized recitation is the outcome of practical experiments to create an atmosphere of activity and responsibility for the child in the classroom. The schoolroom of the past has emphasized discipline and control from the standpoint of the teacher. The socialized recitation emphasizes self-control and activity through experiences created in the classroom for the purpose of training the child by means of his cooperation with others in some essential and profitable work.

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[1] Civic Education in Elementary Schools as Illustrated in Indianapolis, Bulletin, 1915, No. 17, p. 9, U. S. Bureau of Education.

[2] Dunn and Harris. Citizenship In School and Out, pp. 24, 25.

The socialized recitation avoids the artificial conditions of the old classroom and recitation. The children become members of a working community which adopts the principles of character and of good citizenship as the standard of living and working. The teacher becomes a better planner and guide, but is less active in the classroom during recitations. The teacher's work must be done before school opens, and once in the classroom she becomes only a member of the class with more or less authority as required.[1]

It will be instructive to compare the following illustration of the socialized recitation quoted by F. B. Pearson with the recitation reported on page 17 of this chapter.

The class was called to order by the chairman [a pupil] for the assignment of the next day's lesson, which proceeded as follows:

TEACHER. To-morrow we shall have for the work of this convention the new Constitution as a whole. We are ready for suggestions as to how we had best proceed.

EARL. It seems to me that a good way would be to compare it with the Articles of Confederation.

JOE. I don't quite get your idea. Do you mean to take them article by article?

EARL. Yes.

(Joe and Frank begin at the same time. Teacher indicates Joe by nod.)

JOE. But there are so many things in the new that are not in the old.

EARL. That is just it. Let us make a list of points in one that do not appear in the other. Then by investigation and discussion see if we can tell why.

TEACHER. Frank, you had something to say a moment ago.

FRANK. Not on Earl's plan, which I think an excellent one; but I wished to ask the class if they think it important while looking through these two documents to keep in mind the questions: "Is this the way things are done to-day?" and "Does this apply in our own city?" and "In case the President or Congress failed in their duty what could the people do about it?

ELLA. It seems to me that Frank's suggestion is a good one, for it bears upon what we decided in the beginning, that we must apply the history of the past to see how it affects us to-day.

VIOLET. I should like to know how the people received the work of this convention. You know, it was all so secret no one knew what they were doing behind their closed doors. If the people were like they are to-day, there would certainly be some opposition to the new Constitution.

ELSIE. Good. Mr. Chairman, I move that Violet report the reception and rejection of the new Constitution by the people of the several States as a special topic for to-morrow.

ROBERT. Second the motion.

CHAIRMAN. Miss Brown, have you any suggestion as to time limit?

TEACHER. I suggest 10 minutes. (Chairman puts vote and suggestion is carried.)

TEACHER. Mr. Chairman, may we have the secretary read the several points in the assignment?

At the chairman's request the secretary reads and the class note as follows: Study of the new Constitution, emphasizing points of similarity and difference. Reasons for same. Application of Constitution to our present-day life. Remedy for failure if officers fail to do their duty. Special topic 10 minutes in length on the reception of the Constitution by the people of the different States.

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[1] Whitney, William T. The Socialized Recitation, pp. ix, x.

TEACHER. I think that will be enough. Consult the text. In connection with the special topic, some valuable material may be found in the civics section in the reference room. The other references on this subject you had given you. Mr. Chairman, may we have the secretary read the points brought out by yesterday's recitation?

Those who use the socialized recitation assert that the pupils "learn" no less and, in fact, remember much more than by the older question-and-answer method applied to memorized pages of the text. But even if they learned fewer "facts," there is ample compensation in the interest created, in the attitude of mind toward the study, and in the initiative and teamwork developed. It is the common experience that under this system the problem of discipline solves itself; the teacher does not have to "keep order," for the class keeps its own order, being interested and busy. The "socialization" of the school—that is, the reproduction in the school of the conditions of normal social life, in the classroom and in corridors, on the playground and in assembly—gives the young citizen experience and practice that tend to establish the ideals and habits essential to democracy.

D. INSTRUCTION IN CIVICS IN THE FIRST SIX ELEMENTARY GRADES.

Not too much should be expected of elementary school children by way of realization of civic intelligence. It would be a waste of time to extend into the lower grades a type of civics instruction similar to that now given in the eighth grade. But a certain type of instruction is not only possible but necessary.

The experiences of the pupils in a socialized school are themselves instructive, especially if the pupils are trained to observe, analyze, and interpret what happens. They not only get the habit of teamwork, but they also learn its value in such enterprises as are carried on in the school. They learn how to get teamwork in these enterprises: that it requires organization and leadership, for example. They not only acquire habits of orderliness, but they learn its value in the group life of the school, and that to get it there must be "rules of the game," whether on the playground or in the classroom or in the corridors. They learn that obedience is subservience, not to a despot in the teacher's chair or principal's office, but to the common interest. These and many other lessons in democracy can be taught only in terms of the learner's experience, and the schools must afford the necessary experience.

AN UNDESIRABLE PLAN.

No amount of "moralizing" about these things will avail if the experience is lacking. It was stated to members of the survey staff that a plan of "moral instruction" is being projected, whereby the various moral virtues, such as truthfulness, honesty, unselfishness, loyalty, generosity, etc., are to be taught systematically by devoting short periods each month in all schools to one or more of them. Occasions arise when direct instruction in these qualities of good citizenship and good character has its value, and occasions are still more frequent when they may be inculcated indirectly through suitable stories, the study of the lives of historical characters, and the learning of "memory gems." But the parceling out of these virtues to be "taught," certain prescribed virtues in January and others in February or March, is artificial, and lends itself to an undesirable type of "moralizing." Every concrete situation involving group action in a socialized school presents its object lessons in the social values of one or other of these qualities, and it is rare, indeed, that verbally attaching a moral is either efficacious or desirable.

PUPILS' EXPERIENCES THE PROPER BASIS

The pupils' experiences are not limited to the school. They are derived in the home, at play, at work, and even in the organized life of the community. The schools of Memphis should make a much larger use than they do of these experiences as a basis for civic instruction. Some of them may profitably be dramatized in the schoolroom, as where various forms of housekeeping play are introduced in the primary grades. Or it may be the work that older boys and girls do after school hours or on Saturdays that serves as a point of departure for useful instruction. Or it may be the activities of the Boy Scouts, of whom there are 1,100 in Memphis organized in 40 registered troops, 11 of them being in the rural districts of the county. Five of the city troops meet in school buildings, but there seems to be a feeling that there is a lack of sympathy with the scout movement on the part of the school authorities. The Boy Scouts are one of the most useful agencies for civic training, and their activities afford valuable materials to be drawn upon by the schools. School life and life outside of school should be more definitely correlated.

The out-of-school activities widen the range of experience from which to demonstrate the principles of group action and the value of essential civic traits under conditions somewhat different from those in school. By comparison, the pupil is enabled to form judgments and to arrive at generalizations that will control his conduct in still other situations yet to come, in the high school or elsewhere.

The first step is to find out what civic relationships and activities do, as a matter of fact, concern the children and engage their thoughts and feelings in the present years of their lives and in the place which they normally fill as child citizens of the community.

The next step is to give recognition in the school life to the most useful among these relationships and activities, and to supplement them in the schoolroom and on the playground until they become well-rounded social experiences productive of desirable social habits.

The final step is so to interpret these experiences in lessons based upon them as to add to the children's intelligence in civic matters and supply incentive for efforts toward good citizenship.[1]

"Any material which has a legitimate place in the course holds that place because it is related to some 'civic situation' in which a child is normally to be found, and his reaction to which is capable of being modified by a 'civic lesson.'" The following outline, taken from the preliminary draft of a bulletin now in preparation by the United States Bureau of Education, illustrates the application of this principle:

SITUATIONS TYPICAL OF THE FIRST YEAR OF SCHOOL LIFE.

1. The daily walk to and from school.
2. Entering the school building and leaving it by assigned doors, hallways, and stairways, according to prescribed rules for filing, etc.
3. Becoming familiar with the schoolroom surroundings—furnishings, decorations, materials for work.
4. Play on the school playground with many playfellows.
5. Using coat closets, toilet rooms, drinking fountains, etc.
6. Taking part in fire drills.
7. Coming into contact with certain persons who represent the authority and the service of organized society—the policeman, the janitor, the teacher, the principal, the postman.

OUTLINE OF LESSONS BASED ON THE FIRST OF THE ABOVE SITUATIONS.

The Daily Walk to and From School.

1. Children's experiences and observations:
    a. Walking or running on sidewalk or street.
    b. Having attention diverted.
    c. Stopping to play on sidewalk or street.
    d. Meeting other persons.
    e. Seeing street cars and other traffic and the policeman at the corner.
    f. Crossing the street.
    g. Losing the way, or seeing a lost child or a stranger seeking direction.
2. Teacher's interpretation and enlargement:
    a. Sidewalk for walking; street for traffic; why.
    b. Look where you are going; why.
    c. Danger of running or playing in street; inconvenience to others of playing on sidewalk.
    d. Keep to the right; why.
    e. Cross the street at the crossing; why.
    f. Look both ways; why.

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[1] Dunn and Harris. Citizenship in School and Out, p. 4.

- g. Cross when there is little traffic, or if there is a policeman there, when he gives the signal.
- h. Kinds of help policeman gives; if in any trouble, ask him.

3. Methods of teaching:
   - a. Conversational lessons, including stories of true incidents, told by teacher and pupils.
   - b. A plan of neighboring streets and crossings and sidewalks drawn with chalk on basement floor or school yard pavement.
   - c. Dramatization with aid of above plan and without such aid.
   - d. Sentence making by pupils (oral language lesson and reading lesson from blackboard).
4. Results to be worked for:
   - a. Knowledge of common dangers from street accidents and of elementary arrangements and regulations designed to prevent such.
   - b. Attitude of caution regarding one's own safety.
   - c. Attitude of consideration regarding the safety and convenience of others.
   - d. Feeling that the policeman is powerful, helpful, and friendly.

FURTHER SITUATIONS.

Typical of the third year.

1. The walk to and from school.
2. Riding alone in street cars.
3. Choosing places to play games and material to play with.
4. Helping to care for surroundings—at school, at home, in the neighborhood of each.
5. Fire drills at school.
6. Accidents and narrow escapes from accidents at home and on the street.
7. A visit to the fire-engine house.
8. Illness among the pupils or their families.
9. Visiting the library, the park, etc.
10. Arrival of new pupils at school.
11. Arrival of newcomers in the neighborhood.
12. Contact with certain persons who represent the authority of organized society: Teacher, principal, janitor, truant officer, policeman, school nurse, doctor, street cleaner, collector of garbage and rubbish, fireman.

Typical of sixth year.

1. Approach of election day.
2. Members of families paying taxes or buying licenses.
3. Violation of law by some child.
4. Suffering inconvenience from contagion of disease or unhealthful conditions.
5. Using school supplies.
6. Need of hospital by members of family, friends, or classmates. Doing some work for the hospitals.
7. Use of libraries, parks, etc.
8. Taking part in governing and being governed at school and at home.
9. Attending military or naval parades, celebration of memorial days, etc.
10. Observing the coming of immigrants.

The civic intelligence of elementary pupils may be further broadened and deepened by the observation and study of concrete occurrences or situations in which they may not have a direct part but in which they have an interest, or in which their interest may be stimulated, and which may be interpreted in terms of their own experiences. Such occurrences are abundant in local community life, and many others come within the range of their interest as they grow older through their reading and through talk they hear at home or elsewhere.

NO USE MADE OF MEMPHIS CENTENNIAL CELEBRATION.

A week's centennial celebration occurred in Memphis while the survey was in progress. If the school program was modified in any way by this interesting and significant occasion, other than by complete suspension of work at certain times, it failed to come to the notice of the survey staff. The pupils were dismissed to go out to the celebration, some of them participating in parades, but the celebration was not brought into the schools to enrich instruction. Not only was the occasion rich in materials pertaining to the history and industrial life of Memphis and the "Memphis territory," which could have been used for dramatization and pageantry and to vitalize the work in history, geography, language, and other subjects, but it was also a civic object lesson (or might have been) in community teamwork, in organization, in leadership, in initiative. It was a rare opportunity to stress the ideals, the devotion to the public good, the initiative, the leadership, of those who, a hundred years ago and at the present time, have made Memphis and Tennessee and the Nation possible.

WHEN CIVICS INSTRUCTION MAY BE GIVEN.

Perhaps a few minutes each day may be found expressly for civics instruction of the kind suggested in the foregoing pages, at least in the upper elementary grades, say from the third grade to the sixth. An occasional opening exercise may profitably be spent in this way. But the brief time thus found is far from adequate. Occasion and opportunity occur in connection with every subject and every activity of the school and should be taken advantage of as they arise.

The language period is a peculiarly favorable time for informal conversations, oral and written composition, debate, and dramatization of topics of civic import. Geography, if vitalized as suggested on pages 24 and 25, affords materials and situations by which to impress civic lessons. Hygiene and even arithmetic present their opportunities. Personal health can not be separated from public health in fact, and it should not be in instruction. Arithmetical problems in taxation, banking, and similar topics relate to civic questions, and may be relieved of much of their tedium to many pupils by discussion of their civic bearings and by the examination of tax receipts and similar documents. The problems themselves should be as largely as possible taken from the real life of the community. (See suggestions on p. 33.)[1]

E. HISTORY IN THE FIRST SIX ELEMENTARY GRADES.

A special word must be said in regard to history study in the elementary grades, though some suggestion in regard to it has been made in Part 2, Ch. I. As has already been said (p. 15), history, when properly taught, has peculiar civic value. As a formal study it has no place in the primary grades, but it should be drawn upon for stories to be used in other subjects and to illuminate present events and situations. The celebration of the various holidays affords one of the most favorable opportunities for such stories. Stories of Indian and Eskimo home life and customs afford highly interesting material for comparison with the present. The same is true of pioneer home life and conditions. Occasions like the Memphis centenary should not be allowed to pass without making the most of their historical significance. Simple dramatization of historical scenes, including scenes from local history, finds a place in language periods and at times devoted to recreation.

FOURTH AND FIFTH GRADE HISTORY.

In the fourth and fifth grades, work similar to that in the primary grades should be continued, but on a somewhat higher plane. In addition to this, biographical stories find an important place. (See Part 2, Ch. I.) In the fifth grade a text, or reading book, of biographical stories may even be used. It is of the utmost importance, however, that the mechanical, undiscriminating biographical study that now largely prevails in the fifth grade in Memphis be avoided. The study of the life of a particular man merely because it happens to come next in the textbook, and the mere memorization of all the facts that happen to be given in that particular book, without regard to relative values, is of little use. The teacher must learn how to select "such efforts of the man and such events of his life as will be of interest and use to the children at their present stage of experience, and * * * so present them that whatever in the narrative has stood out to her as worth while will stand out boldly for the children to see."

Every biographer necessarily has an individual point of view, studies his subject in the light of his own experiences and sympathies, writes of him with the purpose to meet the interests, and answer the unspoken questions of his readers. In this method of teaching, the teacher becomes a biographer and the class her public, for whom she selects facts and to whom she presents them from her point of view.

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[1] See also Bul., 1915, No. 17, pp. 23–26, U. S. Bu. of Ed.

Of course the ability to handle this method belongs only to the teacher who is herself a reader. She can not do the work on the foundation of brief stories written for children, but must have read at least one of the longer and more careful biographies—if possible, more than one—in order that she may have in mind, before beginning to plan the work for the children, a vivid sense of the man's personality and a clear notion of his relation to the larger historical movement of which his work is a part. She must also be a reader of current periodicals. Newspapers and magazines must keep her in touch with what is going on in the world to-day in order that she may judge what persons and what historical movements in past days have most vital meanings for children who are living in this particular year of the world's history. No familiarity with the "storied past" will take the place of intelligent and warm interest in the history that is amaking to-day.[1]

SIXTH GRADE HISTORY.

For the sixth grade a study of the "European background of American history" is commonly recommended. However—

> the teacher may do well to remind herself how little the general statements of a brief history of Europe, no matter how pleasing the style, can mean to readers with such limited experience and immature grasp as her children have. She will doubtless conclude from her own observation that a passage, of one paragraph or of a dozen, which summarizes the history of a nation or of a stage of civilization—like Feudalism or the Crusades, for instance—makes on a child's mind far too light an impression to become an effective background for any future study.
>
> Whereas, if a child has followed with absorbed interest and lively sympathy the personal fortunes of even one devoted patriot in each of the countries in question, he has caught many a vivid glimpse of what that nation stands for, and the chances are that he has acquired a desire to learn more and yet more of its life. * * * With these conditions in mind, the teacher will emphasize, in any European history course for the sixth grade, those concrete and personal elements which are so strong in human interest and make special appeal to the childish sympathy and imagination.[2]

Much old-world history may be introduced in its relation to innumerable topics that arise in the various subjects of study. In relation to manual work (which does not now occupy the place that it should in the Memphis elementary schools), as well as in relation to geography and other subjects, and as a first step toward vocational and economic study in later years, there is opportunity for a concrete, elementary insight into the occupations of men. Here history becomes useful and interesting. In the early grades the story of Robinson Crusoe affords a concrete epitome of industrial history. This may be followed by descriptions (and to some extent by reproductions) of the mechanical arts of the American Indians or Eskimos, and of the American pioneers. From this it is but another step to comparisons with the handicraft of the ancient Greeks and of other peoples, and to the story of inventors and inventions that have made modern life possible. The subject of transportation and communication should come up in a variety of concrete ways during the elementary grade work, and offers the opportunity for the story of the Roman roads and of means of travel and transportation at different times and in different lands; or it may suggest the fascinating story of the development from the picture writing of the American Indians, through the hieroglyphs of Egypt, the alphabet of the Phœnicians, the stylus and tablet of the Greeks and Romans, and the methods of printing in the Middle Ages, to the inventor and the invention of the printing press.

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[1] Dunn and Harris. Citizenship In School and Out, pp. 81, 82.

[2] Ibid., pp. 83, 84.

The selection of old-world biographies and old-world stories of human interest for use in the sixth grade should be made with the double purpose of illuminating present-day life and the early events of American history; also to develop an appreciation of the achievements of peoples other than ourselves and a sympathetic attitude toward their representatives at the present time. Any list of such stories should include the more important explorers and first colonizers of America, studied so as to bring out the old-world conditions that inspired them to action, as well as the results of their work. There is an abundant literature helpful to the teacher in selecting and organizing such stories.

3. CIVIC EDUCATION IN THE HIGH SCHOOLS.

The civic training suggested in the preceding pages for the elementary and grammar grades is designed to meet the needs of growth at the various stages of the pupils' progress, and to give the fullest measure of preparation for the responsibilities of civic life compatible with the experience and mental maturity of those who leave school at various points. It should also lay a foundation for instruction and training in the high school that would otherwise be impossible. The value of the elementary work will largely be lost if it is not persistently followed up in the high school. The first necessary step toward effective civic training in the high school is to provide effective civic training in the grades below the high school; the second necessary step is to build consciously and definitely on this.

Some changes are recommended in the course of study of the Memphis high schools to meet the demands for civic training. A brief review of the present course of study, from a civic-educational standpoint, is first in order.

IN THE CENTRAL HIGH SCHOOL.

The Central High School offers to its pupils a wide range of social studies. A four-year course in history is offered—ancient history in the first year, medieval history in the second, modern European history and the history of England in the third, and American history and civics in the fourth year. In addition to this, a year's work in economic and commercial history is offered for pupils in the third or fourth years. Of other social studies there are offered, besides the half-year course in civics in the fourth year, courses in economics, commercial geography, and commercial law, all for third and fourth year pupils. A good deal of emphasis is placed upon public speaking and debating, in which public questions are studied and discussed, and the English work generally lends itself to, and is more or less utilized for, similar study.

The half year of American history and the half year of civics, both in the fourth year, are said to be required of all pupils. All other history and social studies are elective, except that ancient, medieval, and modern European history are also required of all pupils following the "history curriculum," and the history of commerce, economics, commercial geography, and commercial law are required of pupils following the "commercial curriculum."

An attempt was made, by means of a questionnaire, to ascertain directly from the pupils in attendance on a given day the history and other social studies actually taken by them. For various reasons the returns were incomplete, and those received are obviously inaccurate in certain respects. Nevertheless, returns were received from 1,027 pupils out of the reported net enrollment of 1,308. From these returns certain general conclusions may be drawn.

The following table shows the number of pupils who have taken the several history subjects:

Total number reporting	1,027
Total number having taken ancient history	572
Modern history	58
Number having taken medieval history	130
American history	98
Economic or commercial history	22

The number taking American history includes only third and fourth year pupils. Ninety-two first and second year pupils reported American history, but they obviously referred to the subject in the grammar grades and not in the high school; the same may be true of some of the 38 third-year pupils. It is certain that fewer than 100 pupils have had the subject in high school. During the term in which the survey was made there were two classes in American history with an aggregate enrollment of 53.

The tabulation for the other social studies offered is as follows:

Total number reporting	1,027
Number having taken civics	91
Number having taken economics	54
Number having taken commercial geography	43
Number having taken commercial law	14

As in the case of American history, more than 100 first and second year pupils reported civics, clearly referring to grammar-grade work. These have been excluded. It is possible that some of the third-year pupils should be excluded on the same ground.

The number reporting economics is unreliable. There have been excluded already 24 first-year girls in the home-economics course who could not have had the third-year economics and doubtless confuse the subject with home economics. This may also be true of some of the remaining 54, only 10 of whom are boys.

The following table is illuminating:

	Per cent.
Per cent of all pupils reporting have had ancient history	55.7
Per cent of all pupils above first year[1] having had medieval history	21.0
Per cent of all pupils above first year having had modern European history	9.5
Per cent of all pupils above second year[2] having had American history	31.2
Per cent of all pupils above second year having had economics or commercial history	7.0
Per cent of all pupils above second year having had civics	29.0
Per cent of all pupils above second year having had economics	17.0
Per cent of all pupils above second year having had commercial geography	13.7
Per cent of all pupils above second year having had commercial law	4.4

From these figures it will be seen that the subjects that deal with American institutions and with present-day problems actually reach a small minority of the pupils who attend Central High School.

American history and civics are said to be required for graduation and are offered in the fourth year, though third-year pupils may take the subjects. There are only 154 pupils enrolled in the fourth year and 221 in the third, as against 576 in the first year. Moreover, many pupils seem to have reached the end of the fourth year without having had the American history or civics. The following table, showing the returns from 117 fourth-year pupils, classified by curriculums, brings out the facts relating to the social studies actually taken by the group just completing the high-school course:

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[1] First-year pupils do not take this and the following subjects.

[2] First and second year pupils do not take this and the following subjects.

Social studies taken by 117 fourth-year pupils, Central High School.

Studies.	Elective curriculum.			Latin curriculum.			History curriculum.			Modern language.			Scientific.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Number reporting	13	19	32	7	26	33	2	10	12	1	1	2	4	1	5
Ancient history	13	16	29	7	24	31	2	10	12	0	0	0	3	0	3
Medieval history	3	8	11	0	1	1	2	10	12	1	1	2	1	0	1
Modern history	0	4	4	0	0	0	2	9	11	0	0	0	0	0	0
American history	7	14	21	0	0	0	2	9	11	1	1	2	1	0	1
Civics	7	13	20	1	1	2	2	5	7	1	1	2	1	1	2
Economics	2	4	6	1	0	1	0	0	0	0	0	0	0	0	0
Commercial geography	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Studies.	English.			Technical.			Commercial.			Home economics.			Total.		
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.
Number reporting	0	3	3	4	0	4	3	8	11	0	15	15	34	83	117
Ancient history	0	3	3	4	0	4	0	0	0	0	3	3	29	56	85
Medieval history	0	3	3	1	0	1	0	0	0	0	5	5	8	28	36
Modern history	0	3	3	0	0	0	0	0	0	0	2	2	2	18	20
American history	0	2	2	2	0	2	2	8	10	0	11	11	15	45	60
Civics	0	3	3	2	0	2	1	3	4	0	10	10	15	37	52
Economics	0	0	0	0	0	0	1	7	8	0	2	2	4	13	17
Commercial geography	0	0	0	0	0	0	1	5	6	0	0	0	1	5	6

This table shows that out of the 117 pupils reporting 57 have had no American history and 65 no civics, while only 32 have come through without ancient history. Only 20 have had modern European history, 17 economics, and 6 commercial geography. None of the 33 pupils in the Latin curriculum has had American history, and only 2 civics, suggesting exemption for this group.

The table shows some attempt to adapt the social studies to group needs; for example, 31 of the 33 pupils in the Latin curriculum have taken ancient history, whereas none of the 11 pupils in the commercial curriculum has had the subject. In the commercial curriculum economics and commercial geography are emphasized, while ignored in the Latin curriculum. This adaptation of social studies to curriculum groups, however, has been very imperfectly made. Why, for instance, should American boys and girls, even though studying Latin, be exempt from American history and civics? All of the 4 boys in the technical curriculum have had ancient history, while only 2 of them have had American history and civics, and no one of them economics. Three of the 5 pupils in the scientific course have had ancient history, none modern history, none economics, and only 1 American history.

Of the 20 pupils in this fourth-year class who have had modern European history 18 are girls; of the 17 who have had economics only 4 are boys. Less than half of the boys have had American history; more than half the girls.

All of the social studies have their values. It is important, however, to consider their *relative* values—their values relative to the purposes of secondary education and to the needs of the groups represented by the several curriculums. These relative values do not seem to have been sufficiently taken into account in Central High School, a fact which is true, however, in high schools generally.

The civic value of any of the social studies depends largely upon the methods by which they are taught. Some really vital instruction was observed in civics and in economics. The quality of instruction in the history classes varies, but the average is perhaps equal to that in most high schools of the same class. In many of the classes, however, there is a tendency toward the formalism that deadens the instruction in the elementary grades. This formalism, or bookishness, increases in the lower grades of history, where the largest number and the least mature of the pupils are to be found.

In passing it should be said that the material equipment for the teaching of history and other social studies is very poor in Central High School, though better there than in either of the other high schools in the city. The school has a very good library, which many if not all of the teachers use freely and intelligently in connection with the social studies. The public library is also used largely, with cordial cooperation on the part of the librarian. But class after class was visited where no maps were available, and pictures and exhibit materials of various kinds were almost wholly wanting. One teacher only was seen who made use of a "reflectoscope" to project upon a screen post card and other pictures gathered largely by herself to illustrate historical scenes.

IN THE VOCATIONAL HIGH SCHOOL.

The Crockett Vocational High School is at present practically a two-year high school. A full four-year course is projected, but at the close of the year 1918–19 there were but seven pupils doing third-year work and none in the fourth year. While there is an academic department enrolling 212 pupils (June, 1919) the chief emphasis is placed upon the trade courses established under the Smith-Hughes Act, and enrolling 99 pupils. Seventh and eighth-grade prevocational classes are conducted in the same building and under the same management, the enrollment being 303.

In the prevocational classes the same courses in United States history and civics are given as in the other seventh and eighth grade classes of the city. They are not modified in any way to meet the special needs that pupils who are preparing for vocational courses might be supposed to have.

The principal of the Vocational High School reports that he is planning a full course of social studies to be installed as the four-year high-school course is developed. At present, however, there is a glaring paucity of such studies. The only social study in actual operation during the term in which the survey was made was industrial history of the United States.

Questionnaires were received from only 128 of the 311 pupils enrolled in the high school; 91 of these are first-year pupils; 72 of them (13 boys and 59 girls) are pursuing the commercial curriculum, 9 (5 boys and 4 girls) the scientific or academic curriculum, 43 (all boys) the industrial curriculum, and 4 (all girls) the home-economics curriculum. These returns are too meager to warrant any but the most general conclusions. Of the 128 pupils reporting, 57 report having had American history and 85 civics; but this refers to the grammar-grade work. Leaving the American history and civics out of account, therefore, 62 of the 128 report having had no social study; 33 of these are boys and 29 girls. There seems to have been a vague attempt to adapt the social studies in this school to the needs of the pupils. For example, less emphasis is placed upon ancient history than in Central High School, and, theoretically, the economic subjects are stressed. As a matter of fact, however, more pupils take ancient history than any other social subject and comparatively few the economic subjects. Thirty-one have taken industrial history and 22 commercial geography. Only 10 indicate having had a course in economics, and all of these are girls.

IN THE KORTRECHT HIGH SCHOOL (COLORED).

The enrollment in this high school for colored boys and girls includes 280 pupils in a three-year high-school course (116 in the first year, 82 in the second, and 82 in the third), and 128 grammar-grade pupils (124 eighth grade and 4 seventh grade). All eighth-grade colored pupils in Memphis are concentrated in the Kortrecht High School and in the Grant School—193 altogether—who are the only colored children in the Memphis schools receiving instruction in civics, which is a very serious matter.

The course of study in Kortrecht is not differentiated into curriculums, all pupils taking the same required courses. Shopwork is offered for the boys and home economics for the girls, but the equipment for these courses is very inadequate. The building itself is wholly unsuitable for school purposes.

The social studies offered are meager and ill adapted to the needs of the pupils. No civics and no American history are offered in the high-school years. Ancient history is required of the first-year pupils, 149 of the 163 pupils reporting having taken it; 65 report having had medieval history. Although it was stated by the principal that no modern European or English history is offered, 8 pupils report having had the former and 24 the latter. Economics is reported by 25, all of whom are girls, and 24 of them in the first year. As it was stated by the principal that no economics was offered in this school, the work of these girls apparently relates to some aspect of household economics. Twenty-three pupils (20 girls and 3 boys) report having had commercial geography.

Although these figures are incomplete for the school as a whole, they indicate the inadequacy and inappropriateness of the social study offered from the point of view of training for citizenship.

PROPOSED PROGRAM OF SOCIAL STUDIES FOR HIGH SCHOOLS.

First year of high school or ninth grade.—It is recommended that a social study be offered in the ninth grade or first year of high school, which may properly be called "civics" and which should be an organic continuation of the civics of the grammar grades, but which should be organized around the economic or vocational interest. The term "vocational civics" has been suggested to designate this course. An outline is given below to suggest the general nature of the course proposed. The topics included are not intended to be taken up seriatim, but to be interwoven as occasion demands.

VOCATIONAL CIVICS.

1. Review the "interests" or "purposes" of community life as discussed in the grammar grades (see outline, pp. 25–33), with stress upon the importance of the economic interest in its relation to the other interests.

   Review particularly the topic "earning a living" as treated in the eighth grade.

2. A concrete study of vocations and occupations, largely based on local observation and investigation, but extended as widely as may be desired to national considerations.

   The primary purpose of this study is *not* vocational guidance, but it should have great value in this connection. The primary purpose contemplated is *civic:*

   (*a*) Earning a living is conditioned on *performing service.*
   (*b*) The importance to the community (local and national) of particular vocations and occupations.
   (*c*) The civic responsibility of every worker.
   (*d*) The interdependence of occupations.
   (*e*) The importance in economic life of organization and leadership.

3. The geographical factor. A practical study and concrete application of commercial and industrial geography.

4. Certain fundamental and elementary economic principles and problems, such as: The factors in production; the use of capital and how it is produced; the labor factor; the machinery of exchange of wealth, the use of money, etc.; wages, profits, etc.

   These topics should be studied *inductively,* and in elementary terms.

5. Certain social problems related to economic life. For example, immigration, housing, child labor, etc.

   These also should be studied inductively and with concrete application to particular situations and conditions.

6. Historical development, especially but not exclusively in the United States, of social-economic elements in community life. For example, opening of natural resources; discoveries and inventions of industrial importance; diversification of occupations and specialization; industrial organization; transportation; immigration; growth of cities, etc.
7. Health, accident prevention, insurance, education, etc., in relation to vocational life.
8. The services and mechanism of government in relation to vocational and economic life.

Such a social study as this in the first year of the high school has decided values. It brings into prominence the supremely important high-school function of training young Americans for citizenship. It completes the cycle of social study begun in the seventh grade and following the elementary cycle of the first six grades. If the junior high-school organization is introduced in Memphis, as is proposed, this program of social studies for the grades seven to nine fits in with it completely. But it has an equal value under the present organization of eight elementary grades and four high-school grades. It tends to give continuity to the work of the elementary and high schools, bridging the gulf that tends to exist between the two. Its practical character will tend to induce larger numbers of pupils to continue in the high school and to remain there. Finally, the course in vocational civics brings to a much larger body of high-school pupils some familiarity with economic and sociological ideas which have a place in secondary education, but which at the present time, if introduced at all, are deferred so long in the course that few pupils get the advantage of them.

The course here proposed for the first year of the high school has peculiar value for pupils pursuing commercial or industrial curriculums, but it should be offered to all pupils regardless of the curriculum elected, and it should be offered in all three of the high schools. It would be recommended that the course be *required* of all first-year pupils but for one consideration. This consideration is the increasing demand for elementary science in the eighth grade and first-year high school. There is a limit to the number of subjects that may be taken in a given year. But along with the demand for greater attention to the natural sciences, there has come also a recognition of the need for closer correlation between the natural science and social science fields. One expression of this is to be found in "civic biology," which is an elementary study of biological science with especial emphasis upon its social relations. Textbooks have appeared under this title. In part 4 of this report recommendation is made for a course in "general science" in the eighth grade, to be followed by "civic biology" in the first year of the high school. It would be highly desirable if every high-school pupil could take both the "civic biology" and the "vocational civics" in the first or second year; but since this is probably not feasible for any large number of pupils in view of the demands upon their time, an option between the two subjects is provided for in the several curriculums recommended in part 4.

THE LAST THREE YEARS OF HIGH SCHOOL.

For the last three years of the high school, the following *minimum required course* of social studies is recommended:

Grade 10 (*second year*).—The modern world: European history from about the middle of the seventeenth century to the present. This may be introduced by a two or three weeks' view of "cross sections" of earlier history, or excursions into earlier periods may be made at any time when necessary to explain later developments. The course should include some examination of near Eastern and far Eastern questions and world colonization by Europe.

Grade 11 (*third year*).—United States history during the national period, with emphasis upon topical treatment, and including world relations of the United States and a comparison of American institutions with those of other countries.

Grade 12 (*fourth year*).—Problems of democracy: An inductive study of vital problems of civic, economic and social significance, leading pupils into the elements of the several social sciences.

This recommendation is in general accord with that of the Committee on Social Studies (National Education Association's Commission on Reorganization of Secondary Education). (See the report of the committee, Bulletin, 1916, No. 28, U. S. Bureau of Education.)

The following comments may be made:

1. The requirement of this minimum course does not preclude the offering of further elective subjects in the social studies.

2. Only 58 of 1,027 pupils reporting from Central High School report taking modern European history. This is less than 10 per cent of the pupils reporting as enrolled in the third and fourth years. The surpassing importance and interest of world problems and movements at the present time justify their emphasis in the education of high school pupils.

3. The preeminence now given to ancient history in high schools is a survival of the days when it was required for entrance to college. The Memphis schools have to meet this condition only in rare instances. The relative value of ancient and medieval history for the vast majority of Memphis pupils is less than that of the history of the modern world.

4. For pupils who need ancient history for college entrance, for those pursuing the Latin curriculum, and for others who may want

it, an intensive course in ancient history may be offered in the second or third years.

5. No argument is necessary in support of a required course in American history in the high school. Such course is now given in Central High School. It should be given in all of the high schools and placed earlier than the fourth year to reach a larger number of pupils. It should by no means be a mere repetition of the grammar-grade history and should be treated on broader lines than the present course in the fourth year. Intensive topical study should be prominent, and world relations emphasized.

6. The recommendation of a study of "problems of democracy" in the fourth year is in accord with that of the Committee on Social Studies of the National Education Association, and is approved by the American Historical Association's Committee on History and Education for Citizenship. Arguments for such a course are given in the report of the National Education Association Committee, Bulletin, 1916, No. 28, pages 52–56, U. S. Bureau of Education.

7. The course in "problems of democracy" lends itself readily to adaptation to the needs and aims of the several curriculums proposed for the high schools. (See part 2 of this report.) For example, in the industrial and commercial curriculum, industrial and economic problems maye be given special emphasis.

Work of this character, however, must still be largely experimental and must depend upon the initiative of the teacher, since textbooks and syllabi built on this plan have not so far been forthcoming. All that can be urged now for the Memphis high schools is that every young citizen who is completing the course of preparation provided by the city and about to enter the active and productive life of the community shall be inspired as deeply as possible with the meaning of American history, American institutions, and American problems of democracy; and that, whatever form the courses offered for this purpose may take, "book study" shall be subordinate to and vitalized by an intimate familiarity with the actualities which touch the pupils' experience.

ECONOMICS AND OTHER SOCIAL STUDIES.

An understanding of elemental economic problems and principles is as essential to efficient citizenship as an understandig of government, whether we consider the citizen in his capacity as a producer or as a consumer of the community's goods. The attempt to meet this need by introducing in the high school a course in economics has not been entirely successful for two reasons: First, because the course in economics in most high schools (as in Memphis) is elected by a mere handful of pupils; and, second, because as usually presented it is not adapted to high-school needs. If such a course were required of all pupils it would mean, in most cases, the sacrifice of some other subject of perhaps equal value.

If the course of "social studies" proposed in the foregoing pages, from the elementary grades to the last year of the high school, be examined, it will be found that the economic "interest," or factor, is not only recognized, but is given prominence all along the line. Even if no course in economics, as such, were offered, the pupils can hardly escape considerable familiarity with the economic aspect of community life if the course herein outlined is wisely used.

The same is true, in large measure, of those other economic subjects, commercial geography and industrial or commercial history. Business law is merely a specialization of civics, and an adequate treatment of it for most pupils may be provided for in the course in "vocational civics."

For those groups of pupils, however, who are pursuing commercial or industrial curriculums, it may be desirable to offer a more intensive study of such economic subjects as those referred to, for which the course in vocational civics should have laid an effective foundation and afforded a valuable perspective. They may be fitted into the several curriculums proposed in part 2 of this report.

A DEPARTMENT OF SOCIAL STUDIES.

It is highly desirable that all of the social studies, including the history subjects, be grouped in a department thoroughly organized and with a directing head. It is immaterial whether this department be called a "Department of History," or a "Department of Social Studies," or a "Department of Citizenship"; but it is highly important that all the social studies which have a content of direct civic value should be grouped, correlated, and directed by the same head; and that the directing head be selected with especial reference to his ability to adapt and apply the several social studies to their civic ends.

ADAPTATIONS FOR THE VOCATIONAL HIGH SCHOOL.

The high-school program indicated above has been proposed primarily with reference to a general high-school course of study, such as exists in the Central High School. Such a program should be modified, or the emphasis placed differently, to meet the special needs of the vocational school.

The course in "vocational civics" recommended for the first year of the high school is peculiarly adapted to the purpose of the Vocational High School, and should be preceded in the prevocational years by the type of instruction in civics and United States history recommended for the seventh and eighth grades.

As long as the vocational school remains a two or three year school, it is recommended that the course in ancient and medieval history be dropped entirely, and that the course in vocational civics (or civic biology) in the first year be followed in the second year by offerings in industrial history and commercial geography with emphasis upon elemental economic principles. Business law may find ample place in the course in vocational civics. It is highly important that commercial and industrial pupils should be given a social and civic viewpoint and should be well grounded in elemental economic principles.

When the four-year course is established in the Vocational High School, the minimum requirements recommended above should be applied, with offerings in commercial geography and industrial history, and with special emphasis in the fourth year upon economic problems.

ADAPTATIONS FOR KORTRECHT HIGH SCHOOL.

The fact can not be escaped that the colored population of Memphis is an integral part of the community and a significant factor in its life; and that every negro child in the public-school system of Memphis is "a citizen of the United States and of the State wherein he resides." Every citizen needs training for citizenship, and it is of the most vital importance to the community that every citizen should have such training. The more unprepared the citizen is for his civic obligations, the greater the need, whether he be native or foreign, white or black.

It is imperative that the civic training urged in this report for the school system of Memphis be extended to the colored schools. The principles set forth in section 1 of this part are the same for both colored and white schools. Differences in presentation there should be, but they are differences of the kind that should characterize two white schools in different sections because of differences in conditions of life, experience, and interest of the children affected.

In order that the colored boys and girls of Memphis may receive adequate civic training, it is necessary, first, that they all be in school during the compulsory school age, and that they be given a full eight-year elementary course and a four-year high-school course, or, better, that they be provided with junior and senior high schools. It is necessary, in the second place, that they should be afforded an environment with respect to buildings and equipment such as is indispensable to effective education and will make the community mean something to these boys and girls and stimulate in them a deeper sense of their obligation and responsibility to their community.

These things being provided for, the course of civic training recommended in this chapter for the first six elementary grades and for the grammar grades should be installed in the colored schools, with only such adaptations in manner of approach, in illustration, and in application as will make it function in their lives. The course in civics suggested for the ninth grade or the first-year high school is equally desirable for the colored high school or junior high school. The stressing of ancient and medieval history is certainly no more to be desired in the colored high school than in the Central or Vocational High Schools. The aim should be to give these boys and girls as intelligent an appreciation as possible of the problems of their community and national life in the solution of which they must inevitably be factors.

4. A SUMMARY OF RECOMMENDATIONS.

1. That training for citizenship be made a more conspicuous aim of the public schools, from the first elementary grade to the last year of the high school.
2. That this civic training be so organized with respect to content and method as to function in the present and later life of the pupil as a citizen, and in the development of a better Memphis and an efficient democracy.
3. That the course of civic training be organized in three well-defined "cycles"—(1) for the first six elementary grades, (2) for the grammar grades and first year of high school, or the junior high-school grades, and (3) for the last three years of the high school.
4. That in all three cycles pupil activities and experience be utilized as a means of cultivating civic habits and traits and as a basis for the interpretation of instruction.
5. That the instruction given in each cycle be organized primarily as a means of influencing the pupils' present attitude of mind toward the community and its government, and of otherwise meeting the needs of present growth.
6. That a course of social study be provided for the seventh, eighth, and ninth grades (junior high-school cycle) that will be continuous, that will coordinate vitally the civic, historical, economic, and geographical elements in the subject matter of the grades, and that will culminate in a civics course in the ninth grade in which the vocational interest of the pupil is predominant.
7. That, in the high schools, a minimum requirement of social study be made as follows: first year (ninth grade)—civics, with vocational relations emphasized; second year (tenth grade)—Modern European and world history; third year (eleventh grade)—American history and its world relations; fourth year (twelfth grade)—problems of democracy.

8. That greater discrimination be shown in the offerings, elections, and adaptations of the social studies in the several high schools and in the several curriculums of these schools with respect to the needs of particular groups.

9. That the social studies in each high school be grouped together in a department under the direction of a head whose qualifications shall include ability to adapt and apply the several social studies to their civics ends.

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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 4

SCIENCE

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

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Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*
Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*
Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*
Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*
Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*
Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*
F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*
John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*
Willard S. Small, *Specialist in School Hygiene and Physical Education. Bureau of Education.*
George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

PART 4. SCIENCE.

CONTENTS.—1. Science in the elementary schools—Science related to other subjects; supervision needed. 2. Science in the Central High School—In the curriculums; pupils taking science; sequence of courses; quality of teaching; more teachers needed; the science equipment. 3. Science in the Vocational High School—Quality of teaching; a plan of science work needed. 4. Science in the Kortrecht High School (colored).

1. SCIENCE IN THE ELEMENTARY SCHOOLS.

According to replies made to our inquiries by numerous officials and teachers, there is no science or nature study work in any of the elementary grades. With respect to this feature, Memphis is perhaps like the majority of school systems with which it may fairly be compared, but distinctly behind those that are most progressive. Science and nature study lessons in some form constitute a part of every really progressive elementary school curriculum.

SCIENCE RELATED TO OTHER SUBJECTS.

Such lessons should not attempt to present science in the form and order in which it is presented in high school and college textbooks. The lessons should be largely concerned with simple facts of a scientific nature that the children can learn by direct observations or from simple experiments that they can understand and even make for themselves. The lessons should grow naturally out of the other lessons and projects at which the pupils are working from day to day. For example, if they are learning about weights and measures in arithmetic, they ought at the same time to learn by use and experiment the simple principle of the equal arm balance and many easily understood facts about balancing, center of gravity, and stability that are related to this principle. In connection with their lessons in hygiene which should be given in every grade, the children should learn some of the simpler facts of physiology on which our knowledge of hygienic laws are based. Alongside their lessons in music and singing, they ought to learn some of the simple facts about sounds, about how musical tones are produced, and what are the physical causes of the differences in loudness, pitch, and tone quality upon which the musical properties of sounds depend.

School gardening. poultry keeping, bird study, the care of house plants and animal pets, and the suppression of harmful insects and other pests should furnish a rich assortment of projects and problems out of which profitable science lessons may grow.

Geography, in the elementary grades is another subject that bristles with facts affording opportunities for firsthand learning of simple principles of physics, chemistry, and biology through observations and experiments that can easily be made by young children under suitable guidance.

Science lessons in the elementary grades, though closely connected with the other studies and growing naturally out of them, ought not to be merely incidental and without plan. There should be a well-conceived and well-balanced development of a body of scientific facts, through first-hand experiences with them, but with very little theory, from the lowest grades up to the seventh. In the seventh and eighth grades there should be a systematic course in general or introductory science, based on one of the best of the recent textbooks on that subject, to be used as a guide by the teacher, but not as a basis of set book lessons by the pupils. The book should be used by the pupils as a basis for systematic reviews and as a guide to systematic organization of principles and the facts which they describe.

SUPERVISION NEEDED.

Such a scheme of science lessons in the grades is a very vital and important part of public education; but if left to the teachers to develop and conduct, it will not be a success. There should be a supervisor of elementary science instruction whose business it would be to plan the scheme of lessons, to teach the teachers how to teach it, to give model lessons in the various grades, and to supervise and test the work of instruction done by the teachers. *We recommend that such a science supervisor be employed, who shall immediately begin the gradual introduction of such a scheme of lessons, perfecting and extending the course as fast as teachers can be trained properly to do the work.*

2. SCIENCE IN THE CENTRAL HIGH SCHOOL.

SCIENCE IN THE CURRICULUMS.

From the table below, which has been compiled from the chart showing the curriculums of the Central High School, one can learn what sciences are offered, in what grades each may be taken, in what curriculums each may be taken, and whether in any curriculum it is required or elective or not offered.

TABLE 1.—*Science studies required and elective in the eight curriculums of the Central High School.*

Science studies.	Latin.			History.			Scientific.			Modern language.			Commercial.			Technical.		
	Grade.	Required.	Elective.	Grade.	Required.	Elective.	Grade.	Required.	Elective.	Grade.	Required.	Elective.	Grade.	Required.	Elective.	Grade.	Required.	Elective.
General science	9		e	9		e	9	r		9		e				9		e
Botany and zoology	10		e	[1] 11 11		e e	10	r		10		e						
Physical geography	11		[2]e	12		[3]e	12		e	11		e				10		e
Physics	11		[2]e	12		[3]e	11	r		11		e				11	r	
Chemistry	12		e	12		[3]e	12	r		12		e				12	r	
Household chemistry																		
Number of sciences required		0			0			4			0			0			2	
Number elective			4			4			1			5			0			2
Total offerings			4			4			5			5			0			4

Science studies.	Home economics.			Elective.			Required in.	Per cent of all.	Elective in—	Per cent of all.	Not offered in—	Per cent of all.	Total.	Per cent of all.
	Grade.	Required.	Elective.	Grade.	Required.	Elective.								
General science	9		e	9		e	1	12.5	6	75	1	12.5	7	87.5
Botany and zoology				[1] 10 11		e e	1	12.5	4	50	3	37.5	5	62.5
Physical geography				12 11		e e	0	0	6	75	2	25	6	75
Physics				12		e	2	25	4	50	2	25	6	75
Chemistry	12		e	12		e	2	25	5	62.5	1	12.5	7	87.5
Household chemistry	11	r					1	12.5	0	0	7	87.5	1	12.5
Number of sciences required		1			0									
Number elective			2			5								
Total offerings			3			5								

[1] Either botany or zoology may be elected.
[2] Either physical geography or physics must be elected.
[3] Either physical geography or physics or chemistry must be elected.

The first and second columns taken together are to be read as follows:

In five of the eight curriculums no science studies are required; in one of them only one is required; in another two are required; none of them require three, one requires four; and none require five, or more than five. The first and third columns and the first and fourth are read together in a similar manner.

This table becomes rather startling to anyone who is impressed with the importance of the spread of scientific education; when it impresses upon him the fact that in this great high school, where a great and growing city needing science for its future development is training its future leaders, the pupils who choose any one of five out of the eight curriculums can get by without studying any science whatever, and that in only two of the eight curriculums, the scientific and the technical, are the students obliged to take more than one science study.

The case looks a little better when we examine the last column, and find that six out of the eight curriculums offer either four or five sciences either required or elective; and one more offers three sciences. In the one remaining, however, the commercial curriculum, the pupils can get no science training at all.

For example, in the first line of this table we read that "general science" is offered in the ninth grade of the Latin curriculum, as an elective, in the ninth grade of the history curriculum as an elective, and in the ninth grade of the scientific curriculum as a required study. It is also elective in the ninth grade in all the other curriculums excepting the commercial, in which it is not offered. In the synopsis at the end of the line we read that it is required in only one, or 12.5 per cent of the eight curriculums, but is offered as an elective six, or 75 per cent, of them, and is not offered at all in one, or 12.5 per cent of them.

The summary at the bottom of the table gives the number of required science studies, the number elective, and the total number offered, in the case of each curriculum. This summary becomes more instructive if we distribute the figures in a slightly different way, as shown in Table 2.

TABLE 2.—*Number of curriculums that offer each number of science studies.*

Numbers of science studies.	Number of curriculums offering—		
	Required.	Elective.	Total required and elective.
No science studies	5	1	1
One science study	1	1	0
Two science studies	1	2	0
Three science studies	0	0	1
Four science studies	1	2	3
Five science studies	0	2	3

We have seen that there are ample opportunities, on paper, for the pupils of Central High School to study science. How many of them are studying it? As many as ought to be? What sciences are they studying? Are the teachers overloaded? Table 3, made up from the teachers' organization reports, enables us to answer these questions.

TABLE 3.—*Distribution of science studies by subjects, grades, and sex of pupils.*

Name of science.	Grade.	Semester.	Boys.	Girls	Total.
General science	9	1	21	7	28
Do	9	1	15	7	22
Do	9	1	11	8	19
Do	9	2	19	6	25
Do	9	2	13	15	28
Do	9	2	8	3	11
Botany and zoology	10	1	9	19	28
Do	10	1	16	5	21
Do	10	1	10	14	24
Do	10	2	7	2	9
Physiography	[1]11	1	4	7	11
Do	[1]11	2	2	13	15
Physics	12	1	14	4	18
Do	12	2	14	7	21
Chemistry	11	1	21	21	42
Do	11	2	17	12	29
Do	11	2	13	11	24

SUMMARY.

Name of science.	Grade.	Semester.	Boys.	Girls	Total.
General science	9	1	47	22	69
Do	9	2	40	24	64
Total	9	1,2	87	46	133
Botany and zoology	10	1	35	38	73
Do	10	2	7	2	9
Total	10	1,2	42	40	82
Physiography	11	1	4	7	11
Do	11	2	2	13	15
Total	11	1,2	6	20	26
Physics	12	1	14	4	18
Do	12	2	14	7	21
Total	12	1,2	28	11	39
Chemistry	11	1	21	21	42
Do	11	2	30	23	53
Total	11	1,2	51	44	95
Total, general science	9	1,2	87	46	133
Total, botany and zoology	10	1,2	42	40	82
Total, physiography	11	1,2	6	20	26
Total, physics	12	1,2	28	11	39
Total, chemistry	11	1,2	51	44	95
Total, all science	All.	1,2	214	161	375

[1] Both in one section.

TABLE 4.—*Ratio of pupils taking science in each grade to enrollment in that grade, and ratio of pupils to teacher-hours in each grade.*

Sciences.	Number pupils per teacher-hour.	Number teachers.	Pupils in science.	Pupils in grade.	Per cent of pupils in grade who take science.	Grade in which science is taken.	Number of sections.	Sections per teacher.
General science	22.2	1.2	133	576	23.1	9	6	5
Botany and zoology	20.5	.8	82	357	22.9	10	4	5
Physiography	26.0	.2	26	221	11.8	11	1	5
Chemistry	31.6	.6	95	221	43.0	11	3	5
Physics	19.5	.4	39	154	25.3	12	2	5
Total science	23.4	3.2	375	1,308	28.7	All	16	5

PERCENTAGE OF PUPILS TAKING SCIENCE.

In order to bring together the most significant facts of this table and compare them with the enrollment data, Table 4 has been made. This assists in the quick interpretation of Table 3. From Table 4, column 5, we can see what per cent of the pupils in each grade are taking science and what science they are taking. The answer for the first two years and the last year of the high school is that about one-quarter of them are, and for the third year about one-half. Evidently science is not unusually popular in the school, for only 28.7 per cent of the pupils enrolled in this school are taking any. This is about the percentage that would have to take it on account of the graduation requirement of a minimum of credit of one unit in science. *A far larger number of these pupils ought, in our opinion, to be studying science, and as free election does not bring this about we suggest that more of it be required, as outlined and explained in Part II, Ch. II, on the science sequence in the curriculums.*

SEQUENCE OF SCIENCE COURSES.

Tables 3 and 4 show the sequence of courses in science. The order might be justified by the argument that it is substantially the same as that in many good high schools. We believe, however, that "general science" should be placed in the seventh and eighth grades and required of all pupils. Every argument that is made in behalf of general science is made stronger by placing it in these grades instead of in the ninth, where it now is. The only valid argument that we know of against placing it there is that there are so very few elementary teachers who are qualified to do the work. The answer to this argument is contained in our recommendation in the first section of this chapter. If the work ought to be done, and we believe most emphatically that it ought to be, then a sufficient number of promising teachers should be picked out and trained for it. Then let these few teach all of it and nothing else. This might easily be worked out under a special supervisor, as we have already recommended. With general science where it belongs, we recommend civic biology for the ninth grade in all curriculums (to be optional with community civics), general geography in the tenth, physics in the eleventh, and chemistry in the twelfth. This science is justified and explained in *Part II*, *Ch. II*, on the high school.

Tables 3 and 4 show that the classes in science, with the exception of two classes in chemistry, are not too large, and that the science teachers are not seriously overloaded on the basis of the number of pupils each must teach per hour. However, the time schedule shows that each one is occupied with science classes or other classwork during each of the five hours of the school day. This leaves them no time within school hours for setting up and putting away apparatus that is used for demonstration and for pupils' experiments. At least one hour per day should be allowed each of them for such work and for the examination of notebooks. To provide for this the full time of an additional teacher is needed now for science. The teacher of physics and chemistry and the teacher of general science are especially in need of relief.

THE QUALITY OF SCIENCE TEACHING.

We come now to the question as to how well the sciences are taught. On this point our observations and inquiries led us to the conclusion that to most of those who take it general science is being made attractive and interesting. There was evidence of this both in the class work observed and in the pupils' replies to our questionnaire. There seems, however, to be very little of individual laboratory work by the pupils and not much of experimental demonstration by the teacher. There is too much straight recitation work from the textbook and far too little of appeal to direct observation and experiment, which constitute the very foundation of science. There was no evidence of inductive teaching or of training in the scientific method of thinking and of attacking problematic questions. The course was almost wholly informational and bookish in character. We were informed by the teacher, however, that some valuable class excursions were made, and that boys interested in making wireless-telegraph experiments and model airplanes outside of school were encouraged to bring them in and explain them to the class. This is good, so far as it goes, for arousing interest and stimulating initiative.

The administrative expedient has been resorted to of giving one section of this subject to a Latin teacher, who is not specially trained in science. Her work in this subject is much more bookish than that of the other teacher, and apparently far less effective. It is more probable that this lady should be commended for her willing spirit in doing her best with a subject in which she is not well prepared than that she should be criticized for not doing better. The remedy lies in our recommendation that an additional science teacher be employed. This teacher could then be relieved of science work.

What has been said of this teacher's work applies also to the teaching of zoology and botany in the tenth grade. The teaching observed and the condition of the equipment in the room where these subjects are taught were sufficient to convince the observer that, though her spirit and enthusiasm are commendable, her special training in that particular line is inadequate for the kind of work that should be done in biology in a modern high school. Nothing of discredit should be attached to these teachers if, as we recommend, they be assigned to other work for which they are better prepared as soon as the conditions which made it expedient to ask them to take science work can be removed. Rather they should receive the thanks of the administration for putting their shoulders to the wheel when there was need and doing as well with the work as they have done.

Another condition which does not make for the best type of science work exists in connection with the eleventh-grade physiography. The first-semester class and the second-semester class in this subject are so small that it was found expedient to combine them in one section. Thus there were in one section, working together, one group of pupils who had studied the subject for a half year longer than the other group. Such a class is very difficult to handle in a way that is fair and satisfactory to both groups. Furthermore, the teacher of this one class has for the remainder of her work four sections in first-year algebra, so that in the case of the Latin teacher above referred to her science class is, as it were, a mere side line. This teacher has had some good special college preparation in physiography, in which she evidently took much interest and did good work. There was, however, the same apparent tendency to bookishness and lack of breadth in the teaching here as noted in the other two sciences. There was also a similar lack of system in caring for and using the somewhat meager equipment provided for this department. We have recommended a broader course—general geography—for the second year in all curriculums, which would require the organization in 1920–21 of about 13 or 14 sections in this important subject. In our opinion this teacher should be encouraged to go on with further preparation in geography with a view to giving her full time to the work. With this as her only work and her chief interest and with further training in the method and content of general geography we believe that she would develop into an excellent teacher of the subject.

The teaching of chemistry, though not free from some of the faults that have been noted in *Part II*, *Ch. II*, on the work of the teachers of all departments, appears to be very successful. This is probably due largely to the fact that the teacher has specialized strongly in the subject, and has also had good all-round training in science, and is a man of maturity and experience in the work. His teaching load, however, is too heavy, and we recommend that he be relieved by employing another man to conduct the work in physics and build up the classes in this subject until it reaches and maintains the prominence in the school that it should have.

At present there are two extra classes in chemistry that are run on the schedules of two of the regular classes, thus dividing the attention and effort of the teacher of physics and chemistry. One of these is a voluntary class of four girls in household chemistry, and the other a voluntary class of boys in analytical chemistry. These are both successful, though for the teacher they represent voluntary work undertaken in the service of pupils who have developed special interest in chemistry. There is a fine field in this school and community for the development of some special advanced classes in chemistry for those pupils who are aiming at employment in agriculture, pharmacy and the cotton and lumber industries; and the teacher of this subject is anxious to develop them. In order to do this, it is essential that he be relieved of the physics classes as suggested above.

MORE SCIENCE TEACHERS NEEDED.

If the science program that we have recommended should be adopted by the board, it will be necessary gradually to increase the number of science teachers as the classes successively swing into the new curriculums. The number of classes to be provided for would probably be approximately as follows:

Number of classes to be provided in the science program recommended.

Subject.	Number of pupils.	Number of classes.	Number of teachers.	Grade.
Civic biology	300	11	2.2	Ninth.
General geography	350	14	2.8	Tenth.
Physics	75	3	.6	Eleventh.
Household physics and chemistry	50	2	.4	Do.
Art reproduction	20	1	.2	Twelfth.
Chemistry, general	80	3	1.0	Do.
Chemistry, advanced	30	2		
Total	905	36	7.2	....

This is only a rough estimate, based on such meager data for prediction as are now available, but it is believed to be not far from what would be true if the new curricula were in operation. Allowance has not been made for increased numbers of pupils in the school, the prediction being based on present enrollment. Some allowance should be made for an annual increase in attendance, which, if the recommendations of the survey are carried out, will probably be greater than the normal increase due to growth in population. As the full time of three teachers is now engaged and two-tenths of the time of a fourth, the curriculum changes recommended would probably involve engaging four additional teachers for science. This does not necessarily mean four additional teachers for the school, as fewer would be needed for some of the other subjects, such as foreign language, mathematics, and English. If the survey commission's recommendation of establishing junior high schools is adopted, the surplus of teachers in these departments could be assigned to the junior high schools. The ninth-grade science teachers would of course be assigned there also.

THE SCIENCE EQUIPMENT.

The science equipment in the Central High School is of a substantial character, and indicates that the school board in the past has been disposed to provide generously for science. There is a laboratory for chemistry, and one for physics, and a large classroom with opera chairs; demonstration table and apparatus cabinets adjoining these laboratories and available for class work in either subject. There is ample storage room conveniently arranged for both physical and chemical apparatus and supplies. For both of these subjects the kinds and amounts of equipment that are needed are to a large degree on hand and are well cared for and systematically arranged. The table space and room space provided for physics and chemistry are sufficient for the classes as they now are, but with the new curriculums, combined laboratory and classroom will be needed (for physics, household physics and chemistry, and art reproduction).

The room in which physiography is now taught has a demonstration table and specimen cabinet which are very satisfactory, but no place to store maps and charts, and no tables for individual laboratory work. For modern instruction in general geography, or even in physiography, the furniture and equipment here are very inadequate. If general geography is required in all curricula, as we recommend, there will be from 13 to 15 sections in this subject. This will require one laboratory room and two classrooms to be in constant use throughout each day of the week and a minimum laboratory and classroom equipment of apparatus for 30 pupils working together at one time. The amount and kind of equipment needed for a laboratory in general geography and the manner of using, storing, and caring for it are fully described in Twiss's Principles of Science Teaching, Chapter XVI (Macmillan, N. Y., 1917).

For botany and zoology there are 36 good microscopes, with an excellent specially-built cabinet in which to store them. Twelve of these microscopes were out of commission, the reason given being that they were in need of repairs. There was also a large aquarium, also out of commission and badly out of repair. The room was supplied with a good demonstration table and a storage case, occupied mostly with a miscellaneous collection of specimens and utensils arranged according to no recognizable system, and in poor condition. The room and its contents fall far short of what a modern high-school laboratory for biological studies should be.

If, according to our recommendation, civic biology be placed in all curriculums and made optional with community civics, it is fair to estimate that about 300 pupils will be studying it, making 11 sections, and requiring constant use of at least two rooms, each systematically furnished and equipped as a combined laboratory and classroom. This would require a considerable amount of additional equipment in charts, specimens, and biological apparatus and materials. It would be useless, however, to install this unless at least one of the two necessary teachers is to have the training and experience in biological work that will guarantee its proper care and efficient use.

The equipment of biological rooms is discussed fully in Twiss's Principles of Science Teaching, Chapters X and XIII, in Lloyd and Bigelow's Teaching of Biology (Longmans & Co.), and in Ganing's The Teaching Botanist (Macmillan).

A special room is provided for general science, and is furnished and well equipped for demonstration and individual laboratory experiments. If, as we have recommended, general science is transferred to the seventh and eighth grades, practically all the equipment of this room might be used for the course in household physics and chemistry, which we have recommended for the home economics, music, and art curriculums.

Some additions to the equipment that are needed immediately, whether the recommended curriculum changes are to be made or not, are as follows: Some additional apparatus for physics, especially in sound and light; a good screw-cutting lathe, drill press, grinder, and wood and metal bench tools for the equipment of a physics shop, the purpose of which is to make and repair apparatus; lantern slides and microscopic slides, stout opaque curtains for darkening all science rooms when the projecting lantern is used; electric connections in each of these rooms for the lantern; charts, wall maps, and blackboard outline maps for geography, and storage cabinets for these; charts, skeleton, specimens, and biological glassware for biology.

3. SCIENCE IN THE VOCATIONAL HIGH SCHOOL.

This is a vocational high school in which shopwork is prominent; and one would naturally expect to find here strong and well-developed courses in physics, especially mechanics and electricity in chemistry, for students fitting themselves for industrial occupations, and civic biology or at least physiology and hygiene for all pupils. It was somewhat surprising, therefore, to find nothing of the sort. There are no laboratories equipped for work in science, and no teachers in the corps, so far as the observer could learn, who are competent to teach science. Such apparatus as there was gave no evidence of being properly used or cared for, and though there was in one room a demonstration table, there was no such thing as a laboratory table at which pupils could experiment.

There were found three subjects which were said to be science, viz, "General science," "wood technology and timber physics," and "printing design."

QUALITY OF THE TEACHING.

What was designated as general science was given in the room where the demonstration table was. There was no evidence of pupil experimentation and very little that any effective experimenting was done by the teacher before the pupils. The subject matter was mainly on home gardening and agriculture. Examination of the pupils' notebooks showed that they were all alike, being merely dictation from the teacher, taken down word for word excepting when the teacher was misunderstood, when the pupil would get down something that made no sense. The teacher's method was first to "lecture" to the pupils, while they sat passive; then the next day he dictated an abstract of the "lecture" which they copied verbatim; then on the third day he questioned the pupils on this dictation. The observer heard one of his "recitations." It was in eighth-grade physiology; and the topic was "Common diseases." The questions were mostly purely factual, calling for no thought whatever. Relations among facts were not sought. The pupils' responses were about as frequently incorrect as correct. Their attitude was apathetic. There was nothing in the entire procedure that could rightfully be called education.

The course in "wood technology and timber physics," as outlined by its teacher, looked well and promising, but the classroom work did not confirm this impression. The class work observed in this subject was memoriter recitation from a very elementary textbook about wood technology. The book was of about the grade that would be suitable for a supplementary reader in the seventh grade. The method of the teacher was to have the class study a part of the lesson for 5 or 10 minutes while he did the same. He would then call them to attention, and with his finger on the page ask them two or three questions in a halting, hesitating manner. Then would follow another brief period of study by teacher and pupils and two or three more questions, and so on. The questions were mostly of a rather trivial sort, and the answers were given usually by several pupils together, each answering in his own way, so that nothing in particular could be distinctly heard. The teacher is said to be an excellent woodshop man. At the exposition grounds is a well-built bungalow booth, which the observer was told had been built by some pupils under his direction. Evidently this man's time should be given to shop instruction.

In further search for scientific instruction the room where the class in "printing design" was working was visited. This was a small drawing room occupied by the teacher and three or four boys. The observer had been told that in this class the physics and chemistry of color, pigments, and paper were taught. He was not able to elicit from the teacher, the students, or the little textbook of design that was in use any scrap of evidence that scientific instruction or experimenting of any sort had been carried on in connection with this class. The work in printing design as such, however, appeared to be efficient.

The plain fact, then, with regard to this school is that no science instruction whatever is given in it that is worthy of the name, and that aside from a very few microscopes and magnifying glasses and some few pieces of physical apparatus and bottles of chemicals there is little of a material sort with which to teach sciences.

A PLAN OF SCIENCE WORK NEEDED.

To continue the pretense of teaching science that now exists would certainly be unwise. Whatever is done in the future should start with a policy and a plan and be built from the ground up. The plan at the beginning should carry with it at least two trained and competent science teachers and two laboratories—one for physics and the other for chemistry—both modern and fully equipped for individual experiments by the pupils and demonstration experiments by the teacher. The apparatus for physics should be as largely as possible such as is used in actual practice in the industries, and the science principles should be introduced through the working out of practical projects and problems connected with the industries, especially those of Memphis and the vicinity.

We recommend for this school the same sequence of scientific studies that has been recommended for the Central High School, namely, ninth grade, civic biology; tenth grade, general geography; eleventh grade, physics; twelfth grade, chemistry, and for the same reasons. Looking toward the future, however, the school eventually should offer a number of short intensive courses in the various phases of physics and chemistry that are needed in direct application to the industrial and commercial vocations for which the pupils are preparing. The subjects for the ninth and tenth grades and general science in the seventh and eighth should be taught, not primarily for vocational purposes, but rather for the purposes of citizenship and individual development. The aims and methods should be the same as for the pupils attending Central High School. The teachers and equipment, of course, should be of the very best and most practical character.

In the opinion of the observer very little can be done to improve the condition of the science or any of the academic work in the Vocational High School until either a new school plant is erected or the crowded condition is relieved and the building is considerably remodeled. It is dark, dingy, unwholesome, and mostly poorly lighted and ventilated. Furthermore, not much can be done until the school is changed from its present unorganized, almost chaotic condition as to administration into an efficient organization with a definite and well-planned assortment of curriculums suited to the needs of the various groups of pupils who attend it. Consideration of such changes as these should precede any changes planned for science.

4. SCIENCE IN THE KORTRECHT HIGH SCHOOL (COLORED).

The condition of this high school for the colored children is even worse than that of the Vocational High School. In fact, it is nothing short of pitiable. The school building is unclean, unsafe, insanitary, poorly arranged, badly lighted, and unsuitably located. Furthermore, it is badly congested. The office room is so small as to be almost useless; there is nothing that might justly be called a library; and there is no laboratory, and no science equipment whatever, excepting a few bottles and test tubes and a few broken pieces of antiquated physical apparatus. It is impossible to do anything but textbook and recitation work; and even such work, on account of the constant overcrowding of the room, must be done under the greatest of difficulties.

The teacher of science is intelligent and well trained. He has very sensible and clear ideas as to the needs of the Negro children and as to what and how they should be taught. He is trying to train them through elementary science in habits of neatness, industry, and exactitude, and is endeavoring to teach them how to think. He has no delusions as to their capacities, and he believes in educating them for the occupations which they must follow. He was particularly clear as to the necessity of picking out those few who excel the others in intellect, teaching them how to think, and instilling into them ideals of service and citizenship, in order that they may become wise and safe leaders of their race. His training in science has evidently been such that if given adequate facilities he could give these colored children the kinds and amounts of training in the sciences that they are most capable of profiting by. The immediate need here is for simple, economical science equipment for physiology and hygiene, for elementary physics, and for botany and gardening. Ample closets are needed in which to keep these. No money should be spent in laboratory furniture for this building. There is no place to install it.

The aims of this school should be two. The first is industrial and commercial—to fit the great bulk of those children for citizenship and for the occupations that are open to them. For the most of this group a two years' course beyond the eighth grade should be ample. The second is preparatory—to select the few who have considerably more than the average endowment of intellect and ambition, and prepare them for the higher institutions for colored youth where they can be trained as teachers, lawyers, ministers, and physicians for the service of their people. The proper training of this material for leadership among the Negroes seems to the writer one of the most important factors in the ultimate solution of the race problem both in the South and the North. Is there any way in which money—and lots of it—can be spent more profitably for the public safety than in the moral, religious, and civic education not only of those Negro youth but the youth of all the other various races that make up our people, who are destined to become the leaders of the race groups to which they belong? A well-located, modern high-school plant, housing a well-organized, ably administered, and carefully supervised Negro high school is an investment that would yield large dividends in safety and prosperity for Memphis.

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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 5

MUSIC

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*
Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*
Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*
Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*
Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*
Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*
Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*
Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*
F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*
John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*
Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*
George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

PART 5. MUSIC.

CONTENTS.—1. Music in the elementary white schools.—The textbook; rote singing; training voices; beginning of technical instruction; careless teaching; part singing; voice classification; effect of formal examinations; inadequate preparation of teachers; music in West Tennessee Normal School; lack of equipment. 2. Music in elementary colored schools—Contrast between Negroes and whites; faults of instruction; monotones among Negro children; lack of sight-singing ability. 3. Music in the high schools—A. Central High School—Chorus and orchestra; instruments should be provided; selections for appreciation; school credit for outside work; B. Vocational High School—Developing musical interest; recommendations; C. Kortrecht High School (colored)—Qualities of singing; tonal qualities; sight singing; the band; chorus singing should be developed; the best in Negro music should be conserved and developed. 4. General aspects—Musical organizations; interest of chamber of commerce; private instruction among school children; money cost of private instruction; tri-State examining board; supervision in Memphis schools. 5. Summary of recommendations.

1. MUSIC IN THE ELEMENTARY WHITE SCHOOLS.

The list of schools provided members of the survey contained the names of 23 elementary schools for white children. The observations set forth in this section of the report are based on a program of visits that included 16 of these schools and almost one-third of the total number of classes in the schools visited. No cnoclusions are drawn that were not confirmed repeatedly by observations of many classes in many schools.

THE MUSIC TEXTBOOK.

The books of music and other musical material on which the course of study is based are naturally of first interest. Their nature and distribution are likely to represent the pedagogical beliefs and musical standards of the department of music, and the amount of material provided is likely to tell something either of the intelligence and enthusiasm put back of the departmental work, or of conditions in the local school system or in the organization of the whole State educational system which react powerfully upon the provision of text material. Several points in a discussion of this question as related to the schools of Memphis must be reserved for a later page. At this point it need be said only that the school children in Memphis are fairly well provided with a basis text of proven quality, and that the gradation of work, as shown by the distribution or assignment to grades of the various books of the course, is in accord with the intentions of the authors of the series, and is in all essentials in conformity with the standards of accomplishment now generally accepted for each grade.

But the selection of a text and the assignment of the books to the various grades amount to little more than staking a claim. The work undertaken in an endeavor to improve the claim, and the success of this work, as measured by the product brought forth, are matters of still greater interest.

The overwhelming consensus of opinion to-day is that in the first year of school little or no attention should be given to the introduction of the staff and staff notation. At the age of 6 years many children have not acquired the use of their singing voice. The first song attempted in September in a first primary room will often reveal the presence of a very large number of so-called "monotones." This is particularly true in cities that, like Memphis, do not have public kindergartens in connection with their schools; and it is quite true of cities that do have kindergartens, unless the singing in the kindergarten is wisely guarded and directed and is not used solely as a mere vehicle for the transmission of a text. Nor do children at the age of 6 universally have use of a vocabulary of tones and a familiarity with tonal usages such as are acquired through a generous musical experience. If they lack such a vocabulary, it is as foolish to begin to teach them the printed symbols of tones as it would be to begin to teach them the printed symbols of language before they could speak or know the meanings and uses of the words they would be asked to recognize. Finally, music should certainly be presented through the ear, and the aural impressions received should be brought strongly to the attention of the mind, before the mind is diverted to a consideration of symbols presented to the eye that hold no content of ringing tone for the imagination of the learner.

THE QUALITY OF ROTE SINGING.

The Memphis schools are in accord with approved practice in that they limit the work in music in the first year almost entirely to rote singing. The staff is often introduced, it is true, usually in a somewhat hesitating way, at the end of the first year; and because that is too early, it is not related to music in the minds of the children, who go about the work on it in a new frame of mind, as they would go about the study of the Corinthian column. But the practice in Memphis is not vigorous and obtrusive and need not be dwelt upon here.

The rote singing in first primary grades in Memphis is a matter for much graver consideration. It must be said that most of it is bad. The tone production of the children is faulty, the voices being chesty and stiff; songs are almost invariably pitched too low; there are altogether too many monotones in most of the rooms, especially for the end of a school year, and the songs used are not selected carefully, in obedience to fixed standards of musical value, literary quality, and adaptation to the voice and the mind of the child. Rote songs heard in primary rooms ranged all the way from some of the finer and most widely used songs of Jessie Gaynor, sung with considerable understanding of the purpose of rote singing and with fairly pleasant tone, to the most barbaric yelling the observer ever heard in a so-called educational institution, on the worst song he ever heard tolerated in any such institution—an atrocity entitled "Everybody Calls Me Honey"—that would have been cheap in the mouths of a Broadway tango crowd, and in the mouths of children was an insult to childhood. Of course the teacher who introduced this song is not fit to teach children and should be promptly ejected from the system. Needless to say, the song was not suggested or sanctioned by the supervisor of music. Another type of faulty song, not so objectionable, but much more frequently heard, was the "action" song. In the most striking example of this sort that was exhibited, the children prepared for the song by crouching on the floor and before completing it indulged in some rather violent leaping. There was some rather breathless singing intermittently—when the exercise was not too vigorous—but naturally such tone as was produced was bad. Just what the performance had to do with music was quite obscure. It was undertaken, however, as an exhibit of music work and not as an exhibit of physical training, which it much more resembled.

But more serious than these occasional errors in the selection of songs is the lack of clearly defined standards and an efficient technique in teaching rote songs. Very many times the songs heard were pitched too low. The teachers were often supplied with pitch pipes, and in higher grades, where the pupils sang from notes, usually used them very effectively. There was great carelessness, however, in pitching rote songs. The teacher usually guessed at the pitch, and the guess of a teacher in such case will invariably be too low. In one or two instances, but one or two only, the teacher let the pupils guess, permitting them to start without giving them any pitch. The child with the strongest voice—which was very likely to be the chestiest—then led.

TRAINING CHILDREN'S VOICES.

The proper voice for children is a light, thin, head voice, very beautiful and very flexible, but small and not fitted to produce sonorous masses of tones such as an adult group produces so well.

All unconsciously to the child, without any special vocal exercises of any kind, this voice may easily be established and maintained by a few simple practices. The very first songs should begin with tones located somewhere on the upper half of the staff and range from there downward rather than upward; the songs should never range below middle C, and should "center" always around the middle of the staff or higher; the tone should always be kept sweet and light (which can be done by the teacher giving the song out in a small, unaffected voice); declamatory utterance, with a view of emphasizing some too violent text, should be avoided; the teacher by a casual word or two should lead the children to listen to the tones they are making and wish to make those tones beautiful; the musical sense of the children should be developed in general by considerable hearing of the melodies of songs they are to learn separated from the words, as against the current practice, entirely unnecessary, of giving great attention to the words separately and none whatever to the musical facts of the song separately; only songs that have some real beauty should be chosen, since crude and ugly songs invariably call forth a crude and ugly style of singing (witness the "vaudeville" voice); and finally, as one positive effort, steps to cure monotones should be taken from the first day on.

It is not to be understood that Memphis is believed to be violating all these principles. There is some frightfully bad singing, as we have remarked, but there is also some good singing, and a very great proportion that needs only a very little intelligent effort to make it good. The criticism is that the work does not give evidence of a well-understood and complete system of educational belief. Either such a creed is not formulated or else it is not understood and followed by the elementary room teachers. Another factor may be the lack of knowledge and skill on the part of the room teachers, especially in a year that witnessed great depletion in the ranks of teachers and the induction into the schools of many new and insufficiently trained teachers. But lack of knowledge and skill can explain only part of the shortcomings observed, for these were obviously due more to wrong aims. Such inadequacy, as compared with uncertain aims, works far more unfortunately in the upper grades in Memphis than it does in the lower. The insufficient time given music in the Memphis schools, which will be discussed more at length later, may also bear upon the results in rote singing in the primary grades. Still, the fact remains that more time used efficiently in the present kind of instruction would not produce right results, because the aims are not right and are not clearly discerned.

Loud and injurious singing on low tones could be easily and almost immediately corrected. The school system should provide every teacher with a pitch pipe and should require her to use it.

If a teacher is informed and conscientious, she will have no desire to do differently.

THE PROBLEM OF THE MONOTONES.

The complete inattention given the monotone was most depressing. It does require a considerable knowledge and technique to deal with monotones successfully, and, in view of a number of unfavorable conditions in Memphis, some measure of ill success would not have been surprising. But the impression gathered by the observer was that the school system in general was curiously unaware of or apathetic toward any problem of monotones at all. In numerous rooms a large percentage of children mumbled in unmusical undertone while the remaining ones sang. The result was depressing from a musical standpoint and intolerable from the standpoint of sympathy for the child's welfare, progress, and free participation with his fellows. Practically no comment on this phase of practice was heard from members of the teaching staff, though other features were from time to time mentioned, in terms of satisfaction or regret or inquiry. The omission was the more puzzling in view of the fact that no belief antagonistic to a policy of dealing with monotones was heard expressed. There was formerly, of course, a belief in some quarters that children mumbling in such fashion were unmusical and could not "learn music" anyway. Many a child has had a blight of restraint and self-depreciation flung into his life by this false and cruel charge. Later it was demonstrated by the work of thousands of clever teachers, dealing with hundreds of thousands of children, that if pupils remained in such condition it was not because they were slighted by nature but were unfortunate in their assignment of teachers.

Because there are so few exceptions it may be taken as a safe rule to apply to any and all monotones that they are not aurally defective but vocally awkward. Test their discrimination in pitch and it will often be found quite equal to those who are singing most accurately. Their difficulty is that they have developed only a speaking voice. This voice is stiff, has little range of pitch inflection, and is characterized by coming straight forward from the back of the throat, below the arch of the palate. The singing voice, in distinction, is light, flexible, high of pitch, and has large nasal and frontal placement. The adjustment of the vocal apparatus to produce it is quite different from that made in speaking. A child may never have made such adjustment, any more than he has made an adjustment for whispering, for instance—which is often quite difficult for him. But to assume that therefore the child has no "ear for music" is as wrong as it would be to assume that because he can not at once whisper well he is therefore deaf to whispered tones.

Although positive measures of instruction, rather than mere safeguarding measures, must be adopted to cure monotones, these measures are not mysterious or difficult, or beyond acquisition by any teacher who lends herself to competent instruction for a few minutes. They are current information and in current use in thousands of schoolrooms in the United States. It would be well worth while for the entire primary teaching staff in Memphis, led by the music department, to address itself to this one definite reformative measure. The corps could very easily accomplish it, and the results would be invaluable. At present the monotones themselves suffer, and they corrupt the voices and ears and hinder the musical development of countless others. They are also corrupting the aural development of their teachers.

THE BEGINNING OF TECHNICAL INSTRUCTION.

It is in the second year that methods in teaching music are most sharply differentiated. Here the business of technical instruction is seriously undertaken; and all first steps in instruction of the child are more important than later steps, and must be carefully and sympathetically made. The work in Memphis at this point has much to commend it. The series of textbooks and charts used do not follow the " song study " method, which is the method in favor with the larger part of educational thought to-day. Nevertheless, the department of music has, in an experimental way, inaugurated some of the features of the song-study method, and sought to apply certain phases of that method to instruction. Although that instruction is related to musical material that was not designed for such use, a good result is entirely possible, and the endeavor deserves all praise.

But while the method in second-year work is commendable, there are some faults of other kinds that must be recognized. The quality of tone heard from the pupils was often faulty, and the songs were sometimes pitched too low. The attainment, too, in different schools and rooms was very uneven. In a few rooms, indeed, practically nothing had been accomplished, though the survey was made at the close of a school year. The introduction of staff notation and the development of sight singing had in these cases been neglected, and all that such classes could present was a rote song or two, sung badly. The atrocious song mentioned in an earlier paragraph was, for instance, done by a second-grade class. On the other hand, some examples of very excellent sight singing were heard, and a knowledge of technical relations that was even too advanced to be in right proportion to the musical power of the pupils was displayed by some classes.

A good practice that semed to come with the introduction of technical work in the second grade was the greater use of the pitch pipe by teachers.

In connection with rote songs there was marked indifference to the proper pitch. Whenever the staff notation was followed by pupils and teacher, however, the rule was a rather careful "tuning up." This arises quite naturally from the practice, very systematically followed out in practically all the schools observed, of requiring the pupils to derive their keynote, in any key whatever, from a C pitch pipe. No other feature of instruction in music is so well understood and so uniformly and efficiently carried out by the teachers in Memphis as is this one. Once in a while it delayed the singing; and as will always happen occasionally, a teacher will consume a lot of valuable time by *untuning* the class at the end of a song in E flat by blowing a C pitch pipe and calling it "Do," and then tuning them up again, to another song in E flat. But the practice is good in itself, and handled as efficiently as it is it becomes a valuable factor in the training of pupils and teachers alike.

THE READING OF THE SYLLABLE NAMES OF NOTES.

A practice that was observed in connection with all singing from the staff, from second year on, but which began to accumulate its unescapable train of ills in the third year, was the reading, or mere saying, of the syllable names of the notes in a piece about to be attempted in singing. This is a species of work properly classified under the genus "study of mathematical relationships in music." When done incidentally, for an occasional note, it may be unobjectionable, but when done as a basic practice, with full belief in its efficacy, it is a pernicious practice that does much harm.

Syllables are valuable as handles with which to bring tones into the mind. Unless the pupil immediately *hears the tones* when "Do-sol" is announced, or unless when he hears the tones, as on piano, he immediately thinks "Do-sol," his syllables represent no contribution to his true musical development. If the pupils looked at the music and silently thought the syllable *and their associated tones at once*, they would be gaining in musical power. But the syllables were always, under this practice, read in concert by the class in a *staccato* speaking voice. No tones echoed through the minds of the children as they read. Note also that there is absolutely no feeling for the rhythmic movement of the song under this process. The result is that the song is as unknown to the pupils when the dreary reading is completed as it was before; the time has been totally lost. Even this is not the worst. If the process is adopted systematically, and is not offset by much hearing and use of *tones and syllables in association*—implying much exemplification by the teacher and listening and practicing by the pupils—there will come a day when it is almost impossible to establish this necessary association. The reason is that pupils, lacking it, will at an early stage apply wrong sounds to correct names, or, less frequently, apply right sounds to wrong names. In either case the pupil is being confirmed in musical untruth. If he says "Do-sol" (which may be right) but gives the tones "Do-mi," or says "Do-mi" (which may be right) but sounds "Do-sol," it is obvious that "Sol" soon comes to mean anything, everything, or nothing. To establish its correct musical association after so many wrong associations have been heard is quite out of possibility.

This may not seem serious to the musician or thoughtful reader not in close touch with musical education, but it is as injurious to the child's musical education as it would be to your child's literary education to have him, in his first instruction in reading, look at the word "cat" and have it called "dog" once, "cow" another time, and "cat" another time. Apply this to all words and one realizes what utter chaos may result.

And yet some of the steps connected with this process seem, at first glance, genuinely educational. The child must "think out" or "study out" his music. Truly, given the scale and the staff and the methods of reckoning, he can "think out" the names; but he can not think out tones without having heard them, not in their present exact relationship alone, but in many relationships. One does not give a child certain principles of relationship and a knowledge of certain chromatic signs, and then ask him to *think* how the chromatic scale sounds; he asks him to *listen* to it. After some listening to it and trying of it himself, he may properly be asked to think how it sounds. But note that such thinking is remembering. It can not be done until the child has a store of tonal memories and has associated these indissolubly with names and signs.

From the point now reached, a general and fundamental comment on the work in all the elementary white schools in Memphis may be launched. *The processes of imitation and exemplification are woefully slighted;* and instruction, often at the place where it is most earnest and most systematically promoted, is, for the greater part, instruction of the intellect in recognizing scientific relationships, instead of instruction designed to develop the specifically musical nature and capabilities of the pupils.

CARELESS TEACHING IN EVIDENCE.

Many illustrations of evil results arising from present methods of instruction could be culled from copious notes made in the schoolrooms while music lessons were in progress. One observation made early in the survey and later repeated many times was that there were an extraordinary number of infidelities to the musical facts of songs previously learned and put in repertoire for familiar singing. In case these were rote songs, as they would be in primary rooms, it was found that often the teacher had taught the song wrongly. More frequently, however, it was evident that the song had been given out correctly, but that it had not been listened to often enough or attentatively enough to insure correct imitation from the pupils.

Songs originally learned by note by the pupils were frequently in the same state. On one occasion in particular the deviation from the printed notation was so great that it amounted to almost an improvisation by the pupils. Admittedly, this betrays carelessness or lack of musicanship on the part of the teacher; but since this song had been learned by note, it also must be evident that little of tonal suggestion was carried to the pupils by the syllable names when they slowly computed them. Once they had left off spelling out notes, they were free, and took the path of least melodic resistance. Still, again, the pupils took the ascending series of scale names, do, re, mi, fa, sol, and applied them to the tones of a descending scale with no perceptible disquietude over the irreconcilability of the two. In another instance a song began with " mi." After " do " was sounded the pupils were unable to sing "mi," and found it only by singing do, re, mi.

It is not to be understood that these and other shortcomings that could be cited were invariably present. What is meant, however, is that most of the faults in the work, except those connected with part singing, can be ascribed to a conception, conscious or unconscious, lodged in the minds of the teachers that instruction in music means implanting a knowledge of staff relationships in the pupil's mind instead of developing his musical capabilities. Often, indeed, as we shall see, instruction swings still further from the path, and does not tend to impart even genuine knowledge.

PART-SINGING.

In the fourth year the new aim in almost all music courses is to develop and establish two-part singing. In this, as in other features, the course in Memphis follows standard outlines. Many important results in musical education depend upon careful training in singing in parts, and consequently a brief discussion of them may not be out of place.

Obviously one important consideration is that of necessity. Sooner or later voices diverge, and unless the ability to sing parts is acquired, nothing but very simple music, limited in range and sung in a comparatively uninteresting way, is possible. All the great choral music, with its beautiful weaving together of different voice lines, is closed, so far as the joy of participation is concerned, unless part singing is established. Moreover, the instinct and desire to blend voices together harmonically is quite as strong and natural as is the desire to sing a tune. It does not develop as early as the desire to sing in unison, and it is not so strong and is not made manifest so early in the case of the white race as it is with the negro race. But at the age at which it is ordinarily begun in schools there is a marked desire for part-singing.

Of much greater importance, however, is the fact that the practice forms a basis for a far broader and sounder musical education than does singing the melody. The solo or unison song invariably takes on the character of individual emotional expression. The ear, in such case, may easily be closed, and the individual be too active in expression to be at the same time receptive. But when one sings in parts, the impulsive abandonment to an inner emotional urge is tempered by an equally strong receptive attitude to the musical impressions received from without. There is the sense of listening—and listening for beauty of effect—as well as the impulse to expression. Exactly this attitude of harkening for beauty is the one which brings most refinement of spirit, most true culture, both musical and general, to the participant. Again, there is the social discipline, still more strongly marked in orchestral playing, of working in cooperation with others, while yet being responsible for the conduct of a separate but coordinate part. Finally, there is a stimulation to mental effort in comprehending the more complex musical design, and in retaining hold on a part that must blend in proper balance and value into this larger design.

It follows, then, that if part singing is well done in a school system, broad and strong values in musical training are insured through that fact alone. In Memphis the attention paid to part singing and the results in it that came under observation in the first week of the music survey, formed one of the most encouraging aspects of the entire situation. There was much of detail in the practice that was faulty, notwithstanding; but the values secured were so fundamental that smaller shortcomings could be regarded with comparative composure. In the second week, however, the schools visited were, as a rule, far less competent in part singing. The great lack of uniformity in results, which has come to our attention in connection with other phases of the work, was again manifest here. Nevertheless, the balance was favorable; and one may say that in part singing in Memphis more than in any other feature the observer feels that he touches a solid foundation of sound purpose and promising endeavor.

ERRORS IN VOICE CLASSIFICATION.

The faults in part singing in Memphis, even where it was best, were primarily connected with errors in treating voices and only indirectly vitiated the results to the ear and the mind. First of these faults is the pernicious practice, quite generally followed in Memphis, of assigning all boys to the lowest part or parts. There is absolutely no excuse for this practice. It is known to teachers, singers, and directors of boy choirs all over the world that until the change of voice a boy's voice has all the range of a girl's voice, and possibly more, and that the quality is firmer and more impressive. The only assumption that can be taken that is true to the facts is that a roomful of boys and girls at the age marked by the introduction of two-part singing consists of *treble* voices of equal range. All the music in any reputable course, and the course used in Memphis is such, whether it be one-part or the first soprano or the second soprano of a two-part song, lies well within this range.

For the sake of developing all voices consistently throughout all of this range, for the sake of acquainting the pupils with the truth about their voices and their relation to parts, and for the sake of developing the musical brains of the pupils uniformly in the endeavor to hold to a lower part, all children should sing in well-balanced proportion through all this range, and sometimes on the lower part as well as the upper. To confine boys to the lower part is to teach them the falsehood that their voices are lower than those of girls. Again, to restrict them so is to exploit their chest tones until their beautiful register is lost to them and its very existence is disbelieved. On the other hand, to restrict the girls to the upper part is similarly to teach them falsely and in the end to weaken their grasp of music till they are utterly unable to sing anything but the "air." Boys should not be herded into seats on one side of the room and girls into seats on the other. Every row should contain some boys and some girls, seated quite without discrimination as to sex. On one song, or through one day or one week, the pupils, boys and girls, on one side of the room should sing the lower part; on the next song or day or week the other pupils should sing the lower part.

If in first learning a piece the parts are practiced separately, as they often must be, *all* pupils should sing together, first on one part, then on the other. It is a very great waste of opportunity to keep one-half of the class waiting—and growing inattentive—while the other half practices; especially since all voices are adapted to either part, and practice in sight singing might also be gained. No permanent assignment of parts should be made except in the case of rare individuals whose voices are obviously not true to the norm, or until voices begin to change. Then the range of each voice should be ascertained, classified, and provided with music according to the facts.

In some rooms in which two-part singing was heard, both boys and girls were on both parts, but this was exceptional. In general in such rooms, division by sex was the rule. In answer to inquiries the observer was told that in regular seating the boys and girls were usually separated, and that this seating was merely maintained for singing, with the resultant assignment of parts by sex. But even so, the boys might occasionally sing soprano. In singing songs with three treble-voice parts, the second part was occasionally assigned a group of boys and girls mixed, and once, at least, the third part was so assigned. In the main, however, division by sex was retained, and the bad implications of the practice were accentuated by relegating the boys to the *third* part alone. It must not be forgotten, on the other hand, that although the parts were badly assigned they were usually, in the large groups of schools heard the first week, well carried. Too much emphasis can not be placed upon the value of such success in a phase of training of very great importance.

VOICE CLASSIFICATION IN THE SEVENTH AND EIGHTH GRADES.

In the seventh and eighth grades the evil results growing out of wrong voice classification reached a climax. The music used, while good in itself, was often totally inappropriate to the voices in the room, or when it was appropriate was so badly assigned that there could be no hope of success, musical, vocal, or educational.

Good management of singing and instruction in music in the seventh and eighth grades of public schools requires a special technic on the part of the teacher. The technic is not elaborate and is not profound or subtle, but it is very definite and is essential.

The voices of some boys break in the seventh year. Indeed, a small number of voices break in the sixth year. In the eighth year a larger number break. Usually a mere glance at the stature and physiognomy of the boys will reveal to the teacher which ones are entering the mutation period. A trip up and down the aisles while all are singing will enable the teacher to distinguish further the voices that are departing from the juvenile treble voice range, and brief individual voice hearings will complete the teacher's knowledge of the vocal characteristics of the individuals in a group. No matter where differentiation of voices occurs, it must be known and be provided for by the teacher. In fourth and fifth grades the voices may all be considered as equal treble voices, and either part may be assigned any group with practically no danger. In sixth grades a few voices may be found here and there which need some guarding and some special attention as to assignment of parts. In seventh grades three-part, treble-voice singing is generally maintained; but now and then classes of seventh-grade pupils will be found that include such a proportion of changing voices that music for two treble parts and bass is more appropriate; and always there is the probability that one or more changing voices will be present, will be ill-adapted to the treble voice music normally provided, and will need to be specially instructed and provided for.

In eighth grades a fair proportion of bass voices may ordinarily be expected, and the music commonly prepared for eighth grades is, therefore, arranged for two treble parts and bass, three treble parts and bass, or four parts, mixed voices, with the tenor part sung as a second alto of limited downward range—the "alto-tenor" of public-school music. But exceptional eighth-grade classes will be found that contain no bass voices, or perhaps only one; and these should be given treble voice music, with a carefully considered assignment of the bass voice, if there is one, to some part which the singer understands, can sing, and can sing without destruction of the musical effects possible to the group and without injury to their musical understanding.

Because of these uncertain and constantly varying conditions, one book of music in a series is usually made up to be used in both seventh and eighth grades; and this book will contain a number of songs for treble voices in parts, and a number of songs for two treble parts and bass, three treble parts and bass, or—what amounts to much the same thing, as sung—two treble parts, a tenor and a bass. Some unison songs on the treble clef, and certainly some written on the bass clef, will also be found. The songs that omit the bass clef are sometimes all grouped in the first half of the book, as being characteristically for seventh year, with bass-clef songs in the second half of the book, as being characteristically for eighth year; or they may be mixed throughout the entire book, leaving the matter of appropriate selection and adaptation to the teacher. In either case there is but one thing for the teacher to do—to learn what voices are before her, to instruct the individuals so that they know the capabilities of their voices and the relation of their voices to the degrees of the staff to which they are assigned, and to select music which fits the voices and may be brought to musical effectiveness by the group.

But one difficulty in provision of material arises here. A seventh-year class all treble voices may complete all the treble-voice music provided for seventh year that the book offers. If in their eighth year they are still a treble-voice group, a new lot of music, arranged for the same voices, but perhaps more advanced technically or more mature in character, must be provided. Or a seventh-year class may, because of many bass voices, need bass-clef music. If a special lot of such music is not provided, there is nothing for the pupils to do but to use their eighth-year music as best they can in their seventh year in school and find it hackneyed when they reach their eighth year. The only satisfactory solution of this difficulty is to have at least double the amount of music that would ordinarily be required for each of these years. Here is the cause for a recommendation as to the provision of material that will be found later in this report.

The practice in seventh and eighth grades in Memphis, with respect to the treatment of boys' voices and the attainment of musical effects, is exceedingly bad. The dread fallacy that boys must sing the lowest part a composer happens to write still obtains. It was depressing to see treble-voice boys invariably assigned the lower part in treble-voice music. It was intolerable to see them, as the surveyor frequently did, assigned the lower part when this was on the bass clef and utterly out of their reach. Seventh-grade classes in which there was not a single bass voice went out of their course to sing songs for two treble parts and bass. The boys, in such case, were all assigned the bass, which they sang in the only way physically possible for them, an octave higher. There was no injury to the voices of the boys, in this case, for they merely looked at bass, and sang treble. There was a little negative injury in warping their voices persistently to the lower treble register. But there was great damage done to music and to the musical understanding of all, because of the extraordinary effects produced by lifting the bass an octave, which brought it at times into collision with the treble voices and at times raised it above even the soprano. One crowning fault which sometimes accompanies this particular evil was not, however, generally present, so far as could be observed; the boys did not rest under the illusion that they were singing real bass, and the mental chaos that would have resulted from so thinking was consequently absent.

If bass and treble voice boys were both present in either seventh-grade or eighth-grade classes, they were all invariably grouped on the lower part. When this was a treble part, basses produced it an octave lower; when it was a bass part, trebles produced it an octave higher. The evil effects of transposing bass an octave higher we have just noted. The evil effect of transposing a low treble part an octave lower is that this usually throws immature bass voices too low. The greatest evil of thus mixing basses and trebles on one part, however, is that the boys with treble voices will invariably try to force their voices down to the bass tones they hear, to the injury of their voices and the utter confusion of their minds. Further, since they can not possibly reach the low tones they so admire, they land half-way between octaves, and produce a stratum of muddy dissonance that is a menace to the musical development of all pupils in the room. The basses, too, coping with the difficulties of a strange new voice which is very uncertain in behavior, and with a new clef which makes altogether new signals to them as to the tones they are to produce, are soon adrift. In the end the confusion becomes so great that sight-singing attainments are lost, parts are no longer cleanly carried, and singing by ear becomes the real practice. Only one end is then to be expected; the melody will be sung by those to whom it is assigned; all pupils assigned lower parts will possibly sing an occasional chord tone, but will more likely sing the melody in various octaves, together with many dissonant tones that represent their experiments in searching for parts. Instead of this it would be much better frankly to sing in unison, in treble and bass octaves, a small number of songs of limited range; for the ears of pupils are so good that practically all would sing the melody correctly were they not doing it inadvertently, while trying to sing a harmonic part. The advantage to clearness of musical understanding that would result from conceiving and singing correctly the notation that the eye was following is obvious.

THE EFFECT OF THE FORMAL EXAMINATION.

The survey of music in Memphis was conducted just prior to the holding of examinations in music throughout all the grades. In room after room the surveyor was met by the statement: "We have not much to show you. We have not done much singing for two or three weeks, as we have been preparing for the music examination." "Evidently," thought the surveyor, "to pass a musical examination you must first quit dealing with music. What is this music examination that it is more valuable for children than song and sight-reading and aural development?" A glance at the examination questions will reveal the answer. We will take only one or two typical questions.

The first question for grade 3–1 is: "What is a staff?" As in that grade, at that time of year, the children have been singing from the staff for one year and a half and have been calling it familiarly by its name, it is to be supposed that they know what it is. The idea that they should not continue using it unless they can define it is as preposterous as the idea that they should not continue to read books unless they can define "book," or eat apples without first answering the question, "What is an apple?"

While a formal definition is learned precious time that should be used in developing real musical power is lost.

Some of the questions for other grades are as follows:

3–2: "Define clef; measure." 4–1: "Define measure; clef; slur; tie." 4–2: "What is an interval?" 5–1: "What is a scale?" 5–2: "What is a scale?" 6–1; "What is a triad?" 6–2: "Draw short staff and write principal triads in key of D." It is obvious that such questions can not possibly be answered by children of the years represented except through formal statements literally memorized. A good musician would hesitate if asked to give an irreproachable definition of "scale" or "interval"; but this does not imply that he does not know, for all practical purposes, what it is. It is certain that he would not be a musician if he had spent his time in learning such definitions instead of in acquiring power in dealing with the things themselves.

The questions quoted were in all cases the most academic ones in the lists. Other questions were of much more practical nature, as, for instance: 3–1: "Draw a staff and place do in key of C." 3–2: "Draw a staff and place signature and do in key of D." 4–2: "What does a sharp do to a note?" 5–2: "Give syllable names for the chromatic scale, ascending and descending." 6–2: "What is the signature of the key of A?" Such questions, it is true, deal with knowledge that is essential to musical power. On the other hand, it can not be gainsaid that pupils could be taught to answer such questions correctly and yet be greatly or even wholly lacking in musical power. The formal knowledge, in short, is only incidental, symptomatic. It musical power is developed, such knowledge will be present as a factor in it before the power has advanced beyond a certain point. But the knowledge might be developed to any point without musical power in any degree being present.

Does knowledge of the kind implied by the questions quoted represent, in Memphis, genuine musical power? The answer may be discerned partially in the fact that musical practice was necessarily arrested for two or three weeks in order to learn the answers to the questions; it may be read in the foregoing description of work in music observed in the schoolrooms; it may be found in additional observations that are now chronicled.

In 4–2 grades the question is asked "What does a sharp do to a note?" From the surveyor's point of view, whether the pupils know this or not may best be judged by seeing what they do when they come upon a sharp in singing at sight. Again and again classes of 4–2 grades and more advanced grades sang wrong names or wrong tones when so confronted; but they could all give a definition of the sharp. In 4–1 grades the question is asked: "What effect has a dot on a note?" Doubtless the pupils could all answer correctly; yet the surveyor had observed that the dotted-note rhythms in "The Old Oaken Bucket," and "The Star-Spangled Banner," sung in room after room, were invariably sung wrongly, because the pupils were unfamiliar with the musical effect of the dotted notes.

THE DEPARTMENTAL PLAN OF ORGANIZATION.

Instruction in music in Memphis is very largely on the departmental plan. A supervisor of music is scheduled to visit each elementary schoolroom once in each 17 days of school. While in the schoolroom she gives a model lesson, which the regular teacher should observe and profit from. The remaining sixteen-seventeenths of instruction is given by a regular teacher in the building. In the first four grades each room teacher is likely to give her own music lessons, though this is not invariable. In the upper four grades some one teacher is likely to be detailed to give the instruction in music to several classes, or even to all classes of those grades in the building. In either case the bulk of instruction rests with a teacher who is not primarily prepared to teach music, but who takes it ex officio, as room teacher, or who is assigned it, presumably because she is better qualified for it than the other room teachers, or, to put it negatively, is not so deficient in music as they are.

This situation is not peculiar to Memphis, but is common all over the United States. The value, even the necessity, of having a supervisor or director of music, as of other special subjects, is generally recognized. The only question is whether the work directed by the supervisor may best be carried on by room teachers working in their own rooms or by one or more special teachers drawn from their ranks and working in several rooms. There are advantages and disadvantages in either plan, and often the choice must be determined by purely local and specific conditions. In general, though, the best results in music are unquestionably in cities and in States where it is the traditional practice to have each room teacher teach her own music. Unless this is done, teachers will not study music as part of their professional preparation and standards will be kept down by the prevailing ignorance. Perhaps, also, the belief that music is a special gift vouchsafed but a few rare individuals, will infect the minds of teachers, parents, and pupils. Further, there will not be a large group of musically instructed teachers to draw the special teachers from, and the special teachers will be the product of studio teachers of music, which means that they will be interested in voice, violin, piano, organ, or some such special line, but will not be in touch with instruction in music in general and will not have a technique of schoolroom practice in music.

Finally, when music is assigned some one teacher in a building, it forces a division on other subjects also. A frequent result is that a school principal selects his best teacher to take the reading, another excellent one to take the arithmetic, and so on until all the "regular" subjects, and all the good teachers, are exhausted. Whoever is left takes music. Every system in which the special-teacher plan prevails will be found to contain some schools in which the most competent music teacher is found teaching reading or arithmetic, while a teacher with no musical ability whatever teaches the music. Often the principal of the school is not solely responsible for these distributions. The good teacher is likely to be able to teach everything well, music included, and may most enjoy teaching some subject other than music. At times teachers will be found who do excellent work in music, but who distrust themselves to such an extent that they can not be prevailed upon to teach it.

These disadvantages quite offset the one advantage hoped for from the special-teacher plan, of having expert instruction for all lessons in music. In Memphis many of the special teachers are doing very good work, in comparison with what may be conceived as the norm of accomplishment possible to the system in its present state; but how their work compares with what would be accomplished under the room-teacher plan, and to what extent the present norm of accomplishment is due to the very fact that the special-teacher plan is maintained, are subjects for conjecture only.

INADEQUATE PREPARATION OF TEACHERS.

The fact remains quite clear, that present standards of accomplishment are low, and that the musical knowledge of the teachers generally and their preparation for teaching music are extremely weak. No reform cries more for immediate inauguration than this. Again and again the surveyor heard teachers make mistakes in syllable names, in the pitch of tones, and in rhythm. But these bits of false instruction were not so numerous or so grave as other shortcomings arising from lack of musical training on the part of teachers. Like the children, their scientific knowledge was far in advance of their musical power. The serious consequence of this is that their ears do not advise them when mistakes, even of the most egregious kind, are made by the children. Here we find the explanation of countless ills. Nothing else accounts for the unconsciousness toward wide departures from the tune on songs previously learned; for the toleration of false rhythms until these are established; for the indifference toward monotones and bad tone quality; for the acceptance of inaccuracies in pitch on songs sung by note, with the books open before all; for the neglect to reestablish the pupils on parts, when these have all broken down into unison singing; for the inattention to correct classification of voices and assignments of parts among the trebles and basses in upper grades. The fact is either that the teachers do not know that these things are happening, or else their standards of musical education are so low that they assume that such shortcomings are quite normal and unavoidable. Possibly both elements are present in combination. A third explanation that might be advanced is certainly *not* true: namely, that the teachers are aware of the faults, know that they may be corrected, but have not professional spirit enough to undertake to make corrections. Such a charge would be grossly wrong and unjust, for if ever there was a body of teachers with a finer spirit toward their work and toward the boys and girls under their care, the surveyor has yet to see it. The spirit in the schoolrooms was, in consequence, beautiful. And yet, because it is out of this very spirit that beauty and fineness of feeling spring, the contrast between it and some of the music heard seemed the more strange and difficult of acceptance.

The teachers are not sufficiently educated in music; or rather the small fundament of knowledge and culture that is necessary is not possessed by all the teachers. So much is sure; but where does the responsibility lie?

Primarily, it rests upon those who issue certificates to teachers authorizing them to teach in the Memphis schools. Since the schools of Memphis operate under a special charter issued by the State, and can and do examine and certificate their own teachers, this responsibility rests upon the school authorities of Memphis.

Evidently the requirements have not been made sufficiently rigorous, if Memphis really wishes to have music competently taught in its schools. Certainly in the last two years, during which there has been a great shortage of good teachers, many new teachers have been taken into the schools of Memphis who have small knowledge of music and insufficient preparation for teaching at all.

The State of Tennessee, as the result of vigorous promotive effort on the part of a small group of progressive workers in the cause of music, has now placed upon its statute books a law making the teaching of music mandatory in all the public schools of the State. The enactment is too recent to have produced notable results at present, especially since the past two years have been so disturbed. Within a year or two, however, a favorable reaction should be manifest in Memphis. One consequence will be to encourage greater study of music in normal schools in Tennessee, and in normal schools that send their students into the State of Tennessee, with the result that teachers who enter Memphis will be better prepared to teach music. Another consequence will be that pupils who enter the Memphis schools from the county schools will be nearer up to grade in music than they have been in the past.

MUSIC IN THE WEST TENNESSEE NORMAL SCHOOL.

As bearing upon the question of the preparation of teachers to teach music, an inquiry was made into the work of the department of music in West Tennessee Normal School. It is not necessary to describe in detail the courses in music there, but a summary of courses and conditions connected with their operation will not be without value. Five courses are offered, each of 12 weeks' duration. Of these the first two—courses 30 and 31—are theoretically required of every student before graduation. Inquiry developed that the requirement is not enforced, and that probably only 30 per cent of those graduating fulfill its conditions. The great majority of the remaining 70 per cent take no music, but a few of them take 12 weeks of it, or half the requirement. These two courses cover elementary musical theory, sight singing, and material and methods of instruction in public schools to the sixth year, inclusive. They are well planned to cover this range thoroughly and efficiently, and if well administered would safeguard the future musical practice of the teacher who had taken them.

With music a State requirement, omission of it on the initiative either of the normal school or any pupil in a normal school seems a strange dereliction. Nor is the omission made in recognition of musical knowledge or ability already possessed by the student. On the contrary, and here is a fact that casts light on the ability of grade teachers in Tennessee to teach music, the statement was made that between none and 5 per cent only of the pupils knew the barest rudiments of music when they came to the school. Evidently, more than 50 per cent know no more when they graduate, if information received is accurate. However, some musical values must be gathered by the students in West Tennessee Normal who do not enter the prescribed courses, as a result of musical activities that come before the entire school. In a general assembly attended by the surveyor the student body sang one or two familiar songs, of folk song and hymn type. The singing was largely in unison, no general attempt at part singing being audible, but the students sang with very good tone and at least average musical effect, as this is found in routine chapel singing. In the music rooms afterward a number of orchestral instruments were seen. These, it was learned, belonged to the director of music, and were used in an orchestra that at the time had 17 members, but prior to the inauguration of Student Army Training Corps work had 35 members. Oboe, bassoon, and 'cello only were missing from the instrumentation. A brass band is also maintained, numbering 30 members before the Student Army Training Corps work began, but only about 15 members since. From advanced courses in sight singing and chorus practice, quartettes, glee clubs, and male choruses are developed. The contribution of these organizations and of private music students to the life of the school can not but have a stimulating effect at least upon musical interest.

But the specific normal instruction in music in the West Tennessee Normal School is not developed as it should be and doubtless will be.

A practice school of some 500 pupils is maintained in connection with the normal school. Each practice teacher works in this school, which is 1¼ miles away, twice a week. But no series of music books whatever is used in this school, and the work in music is certainly not such as a graduate teacher who had practiced in it would be called upon to do in a school system that made any pretentions to serious work in music. It is unjust to criticize the music department for these shortcomings, for the instructor in music is engaged for only 9 to 12 hours per week of service. He doubtless gives more, but the full development of departmental work would certainly require the full time of one man.

One change seems desirable in courses 30 and 31, which are the courses designed to prepare teachers for music work in the first six grades of elementary schools. The books on which these courses are based are in use in the other normal schools in Tennessee and are unobjectionable in themselves. But West Tennessee Normal School probably articulates more closely with Memphis than with other cities in the State; or, if it does not do so now, it seems inevitable that it will do so in the future; and the music books used in courses 30 and 31 are not used in Memphis. It would not be difficult to add to the courses named a study of the books used in Memphis and, perhaps, other books that may be used in Tennessee, and this should be done.

Returning now to the question of responsibility for the poor preparation of teachers in Memphis to teach music and the resultant low standards of musical accomplishment in the grades, we can see that these conditions are not wholly of local origin, but represent standards of a day that is passing in the State of Tennessee and in great sections of our country at large. Here is a quotation from an article by Max Schoen, whose work in eastern Tennessee is widely known. It appeared in "The Musician" for November, 1917. The entire article could be quoted appropriately in this report, but length forbids. It should be read, however, by those interested in the investigation with which this report is concerned:

> Four-fifths of the total population of Tennessee live in rural sections. This means that four-fifths of the men, women, and children of the State are practically totally deprived of coming in contact with any musical experiences outside of the occasional singing of a lugubrious hymn at church or at the "singing school."
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> The scholastic population of the State in 1916 was 778,963. Of this number, 606,510, or 76 per cent, were in rural schools. In other words, 76 out of every 100 children now being educated not only do not receive any definite or systematic training in music but do not even have an opportunity to hear any music either in the school, at home, or in the church.

The surveyor is unable to verify a statement made to him in Memphis, that there are only four cities in the State employing supervisors of music. At any rate, the number is not large. The results are painted by Mr. Schoen in the article quoted, and in another article by him published in "The Metronome," March, 1919, in more positive terms than the surveyor could have used.

The conclusion is that music in the schools in Tennessee is not "in the air," is not abundant, easily accessible, a matter of course in the experience and education of all. Standards suffer in consequence. Musical circles in the cities may and do carry on advanced musical activities, but the schools, drawing pupils from a virgin field, send to the normal schools to be made into teachers individuals with small musical background; and the normal school sends these teachers back to perpetuate the system from which they came. Somewhere a powerful and energetic spirit must arise to break the vicious circle, but the critical must not rail if a musical Messiah—at the salaries paid teachers—does not appear at the moment. Rather there is danger that any but the most robust spirit that enthusiastically undertakes reforms will gradually have his own standards lowered in the face of the wall of indifference and bad practice which he encounters. But it is within the probabilities that many voices at once, from outside or inside school circles, will sound a call for better things until a general awakening will result. Such a simultaneous awakening on the part of all who take part in musical education will have all the force of the advent of a reformer. The question is largely the old one of the responsibility individuals must bear for the perpetuation of a system filled with inertia versus the responsibilities the system must bear for the creation of those individuals who are born of it and are a part of it. Memphis is seeking a way to break the deadlock. She will find it. The fact that a school survey was undertaken and supported in the finest, fullest way by all concerned is proof that consciousness of some need and general desire for some improvements is felt by many.

LACK OF PROPER EQUIPMENT.

When the quickening of a new impulse does begin to operate in the Memphis schools two features not yet spoken of will receive attention. There are not enough pianos in the schools. There should be one on each floor of each building, and one on each floor of each annex to a building. In substitution for some of these pianos, if necessary, or better, in addition to these pianos there should be a number of portable reed organs in the elementary schools. For voice work with children, for purposes of easy and frequent use, and for supplying a necessary instrumental element at a reasonable cost, the portable reed organ is better than the piano. No teacher of music other than a public-school music teacher would attempt to instruct a child in music through half a dozen lessons, to say nothing of attempting his entire musical education for eight years, in a room destitute of any musical instrument whatever. Yet that is exactly what a teacher of music in public schools often, and frequently without protest, undertakes.

For a thousand purposes of illustration, exemplification, instruction in theory on such points as the composition of major and minor scales, chromatic tones, etc., for giving pitch, for sustaining some part in part singing, for giving harmonic groundwork to unison songs, for provision of essential features of accompaniment, especially where the accompaniment is rhythmically independent of the melody—for all these and many other uses the studio teacher would feel that a keyboard instrument, any keyboard instrument, was indispensable. Four-octave portable reed organs that fill this need perfectly are made by one of the greatest firms of organ builders in this country and are largely bought by boards of education. They can be voiced to an extremely beautiful quality of tone, they are inexpensive, and they are easily kept in repair. Work in a schoolroom in which a lesson is never given without using a piano or one of these organs is so manifestly superior to that in which no such instrument is used, that no argument is needed to convince those who have heard the contrast.

There is an effort in Memphis to put Victrolas and records in the schools. The object is worthy but not imminent. People, and especially children, should know music and make music before they listen passively to elaborate musical selections, perhaps from some opera that is of interest only dramatically, and to an adult. And the Victrola serves little ones in primary grades very poorly. An organ would cost less and would serve the entire school in connection with the music appropriate to the experience and study of pupils in each and every grade. Then, after the children sang well, learned tone and technic and had accompaniments to their songs from the organ, a carefully selected list of records that would be within the comprehension of the grades for which they were designed might well be installed.

Finally, in the day of renewed endeavor, there will be more attention paid by the schools to the study of orchestral instruments by pupils. Small combinations of orchestral instruments may be developed and maintained in most elementary schools that have large enrollment. In the elementary white schools in Memphis this past year there were three such groups. Two were of only five members each, but one group had about 20 members. It would be well worth while to foster carefully such groups, the board of education providing them with music and instruction. Class instruction in violin, as given in dozens of cities in the United States, would be a later development that might be undertaken. That there would be good response to the plan for developing orchestras seems certain when the significance of a table on music study, included later in this report, is fully realized.

2. MUSIC IN THE ELEMENTARY COLORED SCHOOLS.

Ten of the eleven elementary schools for colored pupils were visited for purposes of this report, and some 40 classes in these schools were heard.

The course of study and a large number of features of practice are substantially the same for the colored schools as for the white schools. On the other hand, there are some differences that are important, and some problems in relation to the colored schools that certainly need separate discussion. If this section of the report is brief, it is not because the subject is unimportant, but because much that was said in the preceding section carries over in application to the schools now under discussion. Only points of difference need to be specially mentioned and described.

We have said that the course of study in these schools is substantially the same as in the white schools. To be more explicit, the course of study in general, the distribution of its content among the grades, and the theory and practice of teaching it are all much as in the white schools. The salient differences are not in the form of study, but in the quality of response to the message of music, as this is influenced by racial and temperamental qualities.

CONTRAST BETWEEN NEGROES AND WHITES.

The Negro undoubtedly has a better ear for pitch and rhythm than has the white, and certainly has an extraordinary harmonic sense. His tendency to improvise an attendant harmonic part, even at an early age, and his desire and ability later to sing in parts, is a salient characteristic. But perhaps more influential, in point of its bearing on the Negro's practice in music, is his tendency to vocalize, and his almost complete freedom from such inhibitions to the impulse to sing as interfere with spontaneous singing in the case of most white races. This capacity to release himself to vocal expression, without self-consciousness or restraint of any kind, gives rise to extraordinary qualities in his singing; and it also gives rise to some doubtful, if not false, conceptions of his musical capabilities.

We forget that this unrestrained impulsiveness results in giving to the hearer a 100 per cent expression of the Negro's musical ability, while in the case of the whites, inhibitions decrease this percentage enormously. Nor should we regret too greatly these inhibitions.

In large part they arise from the restraint, the reserved and reflective type of mind, that characterize what Sir Hubert Parry calls the "responsible" races. Even self-consciousness is quite likely to be the product of a sensitiveness that indicates an advanced type of organism and an enlightened regard for high standards; and at its worst it betrays a self-centered quality that may be objectionable on many grounds, but that does not represent lack of ability. In music the playing of an instrument is a less direct expression than singing; a player may, so to speak, hide behind his instrument. Here, where inhibitions conflict less, the white races reveal their enormous aptitude for music and musical attainment.

The extraordinary talent for pitch, the love for melody and the ability to remember it, the keen sense of rhythm and the enjoyment especially of marked rhythms of irregular type, a fine harmonic sense, and, above all, a quite wonderful verve and abandon in singing were all noticeable features of the music in the elementary colored schools in Memphis. Some factors, however, worked against developments that might be expected as the result of these capacities. First was a lack of attention to musical structure, to form in its balanced relations. Attainment of such balance implies restraint, a natural coordinating power. The singing was often overenthusiastic or capricious. Mention was made, in connection with the white schools, of infidelity to the facts of songs previously learned. The tendency to depart quickly from the notation, to improvise, to add variations was more marked in the colored schools. Spontaneity reached a point where expression was more important than preliminary acquisition. This is not written as altogether adverse comment. It is true; and it is given because it may be helpful in planning a wise course for the future musical development of the pupils.

FAULTS OF INSTRUCTION.

Some pleasant singing was heard in a few rooms, but in almost all rooms the songs were pitched too low, and the tone was therefore chesty and bad, unless the singing was restrained to a very soft degree of power. Almost no pitchpipes were seen, the teachers pitching songs by guess, with the usual result of pushing the voices too low. A large amount of singing heard was simply unbearably loud and strident. Nothing observed in the colored schools was so completely disappointing to the surveyor as this. The children have good ears and voices that are wonderful in their power, range, flexibility, and early development. To train their ears to the bad quality of tone so often heard, and to establish wrong methods of singing and warp the voices downward from their most beautiful register, seemed a great misfortune.

Because of this persistent misdirection and the great range and early maturity of the voices, excessively low singing, that would have been impossible to the voices of white children, was often heard in primary grades; and yet these pupils have also all the beautiful high-head tones of white children. Also an extraordinary amount of singing of melodies an octave lower, by boys in grades as low as the fifth and even the fourth, was observed.

Notwithstanding that the Negro has a natural ear for harmonic effects, but little competent part singing in the elementary schools was heard, and less effort toward its development seemed to be made than was made in the white schools. Perhaps several causes contribute to this condition. Too much impulse toward spontaneous singing does not lend itself well to the careful working out of parts; and although parts might rather easily be extemporized by groups so talented in that direction, or might almost be taught by rote, the use of graded books and the praiseworthy determination to develop a technic of sight singing by work in these books makes such attempts undesirable. Further, and this is a condition that should receive immediate consideration, a great many pupils in some colored schools visited were not provided with books. The fortunate possessors of books often had to share them with others not so fortunate. Such a condition is certain to work against the attainment of good results along almost all lines. Finally, there was a most evident lack of good preparation on the part of many teachers. A number of positive errors were made by teachers who conducted lessons observed; and much more frequently the children were permitted to make errors repeatedly without correction because the teacher did not detect the errors; or else the children floundered hopelessly without receiving instruction that would have righted them because the teacher did not know enough about music to know what their difficulty was. This condition is manifest in the white schools also, as we have seen; but it is manifest in considerably greater degree in the colored schools. Its relation to part singing is simply this, that a teacher who knows little about music may make some progress with the simple music in one part used in the lower grades, but will be unable to hear and guide several parts at once, and give the requisite instruction in connection with the more advanced music of the higher grades.

VOICE CLASSIFICATION BAD.

The practice with respect to the classification of voices and assignment of parts in rooms that contain changing voices is, until eighth grades are reached, bad. The tendency to assign all boys to the lower or lowest part is still manifest, though possibly it is not quite so persistent as in white schools, owing to the fact that many colored girls wish to sing alto. Trebles and basses are also, as in the white schools, constantly joined on the same part; but there is now this important difference—in the white schools, they were most frequently joined on bass parts, and in the colored schools they are much more frequently joined on treble parts. The reason is found partly in the different grading of the musical material used and partly in a natural difference between the voices. In the colored schools treble-voice material is carried throughout the seventh and into the eighth year, but the voices mature early and large numbers of bass voices were therefore found singing the lower treble part. In white schools, on the contrary, bass clef material is carried down into the seventh year, but voices mature later, and treble voices in large numbers were consequently found singing on the bass part. Both plans are faulty in not providing for the pupils music notated in truthful accordance with what they really sing; but of the two, the assignment of bass voices to treble clef leads to less distortion of musical effect and does less damage to the understanding of the learner.

FEW MONOTONES AMONG COLORED CHILDREN.

In spite of the vagaries of teachers in fixing the pitch of songs, there are comparatively few monotones in lower grades in the colored schools of Memphis. A minimum of attention to pitch and quality of tone, as exemplified by the teachers, would quite clear the colored schools of monotones. Higher in the grades there were occasional classes that at times sang badly out of tune. A combination of causes led to such defeats of the naturally good ear of the race. The pupils are not at all proficient in sight singing. Asked to sing at sight, they depended on their weak and untrustworthy knowledge and reckoning instead of on musical instinct, and sang out of tune by intention, so to speak. The pitching of songs in keys that placed some voices on parts in uncomfortable or impossible registers, and the assignment of parts to voices which were not suited to them, helped to create dissonance at times. Persistently heavy, energetic, overenthusiastic singing, as contrasted with pure, beautiful singing that is touched also with the attitude of listening, may be relied upon to create further insensibility to aural facts and consequent dissonance.

LACK OF SIGHT-SINGING ABILITY.

The forms of instruction in the elementary colored schools are, so far as general plan is concerned, not quite so academic as those in the white schools. The genius of the race is for expression, not for academic discussion; and consequently the work in theory bears quite directly upon the musical practice. Thus, the first examination for

3–1 pupils in white schools was: "What is a staff?" The first question for the same grade in colored schools was: "Draw a staff. Place on it a single bar; a double bar; the G clef." Such difference is typical throughout the entire lists of questions. But the success of the colored schools in mastering theory and sight singing is not correspondingly greater. Whether the cause is the poor preparation of teachers, the occasional lack of books, insufficient time, or all of these causes and more combined, the fact remains that in the majority of rooms there is very little sight-singing ability. Results are very uneven, and an occasional room was heard which was distinctly above the average; but a school system must be judged by the general standard of practice rather than by the occasional room, and so judged the sight singing is poor. Nor are methods by any means free from a prevailing academic taint. The practice of first *saying* syllable names throughout a song about to be attempted is very general, and a formal quiz as to the key, measure, kinds of notes, and rests, etc., seems to be the usual routine, though dispensed with at the request of the surveyor. Blackboards frequently bore various symbols of musical notation, such as the staff, the scale in various keys, the letters on the degrees of the staff, and other symbols. Doubtless the pupils could recite well on these, but their books were full of music containing the same notational elements, and if they knew the signs abstractly it did them little good when they were confronted with them in the concrete, for they could not read well. Once or twice when pupils missed tones there was further illustration of a misplaced reliance on scientific thought rather than upon musical training. The failure was due to lack of association of tones with syllable names; the cure would have been found in immediate exemplification and practice. Instead, the pupils were asked to *think* how the tone should sound. They might as well have been asked to think how X sounds. It does not sound at all, unless it has been persistently associated with some sound. And one either knows it or does not; and if he does not, the one recourse is to give it to him.

MINOR DETAILS.

A fondness for motion songs was quite manifest in the rote singing of lower grade classes. In the surveyor's experience this is always a sign of a corresponding inattentiveness to the facts of tone in their appeal to the ear.

In lower grade rooms, a bad practice was noted, at the point where practice on the scale is begun, of teacher and pupils lifting their hands little by little as an ascending scale was sung, and lowering them correspondingly on the descent. No surer way can be found to give the pupils the sense of increasing vocal effort as head tones are entered; and yet it is true that these tones are easier of production than the lower tones, and should be sung as on a high level, and not as at the peak of a tonal mass broadly based far below.

In learning part-songs there is failure to take advantage of the opportunity for general practice. The parts are practiced separately, each by the pupils only who are assigned that part. So long as the parts are all for treble voices there is no doubt but that there is great advantage in having all pupils practice all the parts in succession. A gain in power of sight singing, a much better conception of the rhythm of the song and of other elements in it that are common to all parts, and a strong unification of the class are resultant values of such general practice.

A difference in the grading of text material, wrong in itself, leads to some good results as well as a number of bad ones. We have already noted the use of treble-voice material in the seventh year work, notwithstanding the fact that many bass voices are always present. The book used is designed for sixth year classes, and is not only ill-adapted to the voices found in seventh grades in colored schools, but is generally under grade for seventh year assignment. This same book is continued in the eighth grades in colored schools in Memphis, where it is still more under grade.

The book designed for seventh and eighth grades is omitted entirely, and in Kortrecht High School, in ninth year, the pupils take up a book designed for eighth and ninth years, and which introduces the bass clef. This retardation and final leap over one book does not work out badly, as we shall see when the high-school work is discussed. The saving factor seems to be that the prolonged experience with easy and simple music in the higher grades enables the pupils to establish themselves firmly in knowledge and ability in music up to that point. In all the years before they have been floundering more or less. In the period of undergrade work they gain control of all the general musical practices that have been essayed earlier but not mastered. Placed at last in music appropriate to their voices and years, and with no essential new feature introduced except the bass clef, they step at once into a sort of musical maturity. Other factors may contribute to the surprising advance made in the upper grades and high school, but without doubt this gathering up of forces is one factor. It would be better yet if the school system worked efficiently at every point along the line of grades and gave to pupils in advanced grades music suited to their voices and not too difficult for their musical abilities as well; but failing in this, a late redemption, even though incomplete, is gratifying. In the white schools, where books are assigned in advance of grade rather than below grade, redemption does not take place, and the work of lower grades is, on the whole, better than that of higher.

AN EIGHTH-GRADE REHEARSAL.

In one elementary school an exceptional and extremely good musical rehearsal was attended. It is notable as showing the extraordinarily good results that are obviously possible but that are attained so seldom. The pupils participating were all of eighth grade and were preparing an operetta for production. The work is quite long and ambitious and very good musically. It is written for four-part mixed chorus, with solos for various voices, choruses for treble voices, and other concerted numbers, and pupils were doing the entire work, solos as well as choruses. As an advanced musical endeavor that brought the pupils into direct connection with a range of musical composition far in advance of anything touched in their daily practice, it was of great value. Moreover, it was costly and required no small amount of effort to produce it, and only a school in which there was an admirable school spirit and a fine attitude toward music could have undertaken it. But, better still, the pupils were doing it very well indeed. Much fine musical feeling was displayed in the sensitive inflections of tempo and in the graces of phrasing. Good dramatic delivery also characterized the work of soloists and chorus. Two features only were open to criticism: The tone was too little shaded, was excessively loud, and at times was even violently strident; and there was a tendency toward a sophisticated and highly conventional style of singing which would have seemed appropriate to the light-opera stage but was certainly out of place in connection with eighth-grade pupils in a colored school. The same tendency toward sophistication, toward imitation of a musical style often flambuoyant and tawdry, had been occasionally observed to a slight extent in the work of classes in other schools. It is hoped that it will be discouraged. It will be far better for the Negro to be sincere and develop his own racial expression in an earnest and profound way than to become a poor imitator of possibly the less desirable aspects of the art of other races. However, in spite of the shortcomings mentioned, the performance of these boys and girls of immature years in a work so ambitious was highly commendable. It was quite the best school singing heard in upper grades in Memphis, and in qualities of spontaneity, precision of attack, volume of tone in dramatic climaxes, and attention to the main demands of dramatic delivery was quite exceptional for eighth-grade students anywhere.

3. MUSIC IN THE HIGH SCHOOLS.

A. CENTRAL HIGH SCHOOL.

Little of systematic instruction in music is attempted in Central High School, and the attempts that are made are dubious and meet with meager success. An incalculable loss to music in Memphis is the result.

High schools stand between a city's children and its adult citizenship. It is possible in a large city high school, such as this one in Memphis, to obtain musical results of commanding value. If these are attained, the effect upon the whole elementary school system is immediate and far-reaching. No elementary school teacher can remain in an indifferent attitude toward music and toward her own accomplishments in it if the high school is filled with students who, as a matter of course and not as a special dispensation, are given a musical education far in advance of that required of her.

Inadequate preparation in music of elementary school teachers will be overcome because every prospective teacher is required to to have at least a high-school education, and this will naturally include, or should be made to include, music. A high-school orchestra will always strike the imagination of a city, gain its hearty approval and good will, and citizens will begin to prepare their children early to play some orchestral instrument in order that they may become members of it. Younger brothers and sisters of high-school students will gather something of musical outlook and ambition from hearing of the advanced musical activities that characterize the high-school stage. Graduates from high school will enter the orchestra or glee club of their college, or enter music professionally, and give testimony to the value of their high-school preparation in social and professional walks of life. In countless ways, overt and subtle, music will be given a power and prestige that raises it above the rank of an infant subject, and lifts standards in the elementary schools with the quickness and power of an electric shock.

In its effect upon the adult community, the installation of good high-school music is hardly less powerful. Private teachers will have more pupils, and pupils musically more intelligent and advanced, and standards of teaching and of normal musical attainment in the city will rise. High-school students who do not aim at practical or performing musicianship will study harmony or musical appreciation in high school and become sympathetic and helpful members of audiences, and patrons of all good musical endeavors. The entire high-school student body, whether in music classes or not, will gather incidentally a valuable fund of musical understanding from frequent hearing of the high-school orchestra (which soon will contain all instruments of the symphonic orchestra), the high-school chorus, and chorus, orchestra, and soloists together, in school concerts. This general student body will in consequence be that much more interested in the musical activities in the city at large.

CHORUS AND ORCHESTRAL REHEARSALS.

Some regular work is undertaken in Central High School in chorus practice, in orchestral ensemble, and in music appreciation. All the work heard by the surveyor was, because of the approach of the end of the school year, in preparation for the graduation exercises. Musical appreciation was not included, but chorus and orchestral rehearsals were heard.

Music selected for the chorus was good in quality and adapted to the voices of the pupils, but rehearsals were bad in the extreme. The tone quality and voice management of the pupils were commendable, but their musical power was not at all adequate. Blunder after blunder was made and repeated until confirmed. In the second period of the Soldiers' Chorus from Faust, which was one of the pieces rehearsed, the syncopation caused by the tie over every alternate bar threw the pupils quite off, and resulted in their making up a rhythm of their own for the second and fourth measures. Repeated trials brought no improvement, and the rehearsals, in that particular, ended as they began. The pupils came in to these choral rehearsals in small groups, when examinations and recitations in other subjects left them free. All groups heard made the mistake described and invented the same solution. The spirit of the pupils was pleasant, but their accomplishment in rehearsal was negligible. It was all extremely depressing.

The orchestra, while amazingly small for a school enrolling almost 1,200 pupils, was composed of quite competent players who played with good tone, correct intonation, fine spirit, and much accuracy. Evidently the players were a group who have had much orchestral experience. One member, who plays also in the Philharmonic Orchestra in Memphis, told the surveyor that there were many more players on various instruments in the school, but that they did not care to join the orchestra. A table given later in this report shows the amount and distribution of such instrumental study. Of course, if all players in the high school were admitted into the orchestra, the playing would suffer. On the other hand, there is the question whether such a group in a high school should be treated as an orchestra or as an orchestral school. In practice both ends may be attained, either by dividing the players into two or more groups, or by having less advanced players attend rehearsals and play only on such passages as are designated by the conductor or some good players with whom they are seated.

INSTRUMENTS SHOULD BE PROVIDED BY THE BOARD.

The instrumentation of the group consists of six first violins, a flute, a first cornet, a second cornet, drums, and piano. There is considerable value lost by reason of the violinists all concentrating on first violin. The absence of a bass and other instruments necessary to orchestral richness and variety of tone is regrettable, but as the school owns none of these instruments, their presence is hardly to be expected. Experience has proven that players of any needed instruments can be developed if the school owns the instruments and arranges to lend them to students. Left to themselves, parents and pupils will never provide, in sufficient measure to insure a full instrumentation, the lower strings, most of the wood wind, and at least the French horns of the brass section. Only instruments that have a large and attractive literature, and that are good in solo and numerous small ensemble capacities, will be favored. But parents who do not care to risk the purchase of a bass viol on the chance that their boy may learn to play it, and who would object to having the unwieldy instrument, with its unattractive solo tone, about the house, will gladly encourage their boy to take lessons, practice diligently, and attend orchestra rehearsals faithfully if the instrument is provided gratis. If this is true of the bass, it is certainly true of the horn, trombone, oboe, clarinet, and bassoon. At least the horn and the oboe are not generally studied merely because the small "business" orchestras commonly heard do not make use of them and familiarize the people with them.

MUSICAL SELECTIONS FOR APPRECIATION.

While the surveyor had no opportunity to hear a recitation in musical appreciation, he made a complete catalogue of the music used in this work. He was first struck by the fact that no player-piano rolls were used, and no player-piano was provided or even sought. Similarly surprising was the fact that no part-songs or solo songs sung in unison were used. With respect to the latter, Mendelssohn, for instance, offers a wide range of thoroughly representative and beautiful pieces that would richly repay study. From "Elijah" there is "If with All Your Hearts," "Lord God of Abraham," and "O Rest In the Lord," all of which may advantageously be studied as unison songs, and which are all included in that form in various books of high-school music. Also from "Elijah" there is the trio, "Lift Thine Eyes," and some of the easier choruses. From "St. Paul" there is "But the Lord is Mindful of His Own," "O God Have Mercy," and several chorals—if not some choruses, such as "How Lovely Are the Messengers." From the Ninety-fifth Psalm, "Come, Let Us Sing," is the beautiful and very easy canon, "For the Lord Is a Mighty God." Turning to the same composer's part-songs, few pieces of the kind are more beautiful than his "O Wert Thou in the Cauld Blast," or "I Would That My Love," both for two treble-voice parts, and very easy, or his little cycle, "O Fly with Me," "The Hoar Frost Fell," and "Over the Grave," for four parts, mixed voices. By means of these pieces Mendelssohn could be studied in his most characteristic and elevated moods; and in relation to music generally, the students could study the oratorio and its musical forms, the choral, the canon, the song-forms, and many phases of thematic development. And how much better to trace the story of "Elijah," read its noble text and thrilling narrative, and hear some of its music, than to trace the story of "Aida" or some worse opera, and hear illustrations from it. Nor is there any reason, even without a player-piano, for limiting the illustrations, from this composer at last, to choral numbers. His "Songs Without Words" furnish a rich mine of musical material that no student of music and its development can afford to ignore, through which the rise of the romantic in music may be traced, and which can always be played by some pupil in the high school.

The list of records used in Central High School reveals that there is an intention to instill patriotism through their use, or at least to acquaint the students with current and popular expressions of war-time feelings, and a desire to familiarize them with the tonal qualities of various orchestral instruments. With reference to this last aim, it may be said that the violin, cornet, and flute are all familiar to the students through the playing of the high-school orchestra. Further, the phonograph modifies so greatly the real tone of many of the instruments that it is doubtful whether the pupils will ever recognize the reality by reason of having heard the phonographic imitation. It would be far better to develop the high-school orchestra until all the instruments could be heard, *and handled and examined* there in the high school.

The intention underlying the use of many of the records is obscure. There are many records that are absolutely superfluous, because no person could possibly have escaped hearing them in original production during the last four years. Other titles are trivial or ordinary. "Poor Butterfly," "I Hear You Calling Me," "My Rosary for You," "Pensée Amoureuse," by Herbert; "Slidus Trombonus," "Birdie's Favorite," etc., are found. Few of the really great masterpieces of music are included. The lovely Welsh folk song, "All Through the Night," Nevin's "The Rosary," the Anvil Chorus from "Il Trovatore" (for brass band), selections from "Rigoletto," "Lucia," "Aida," "Otello," a Staccato Caprice by Vogrich, a fantasia on Mendelssohn's "Spring Song" are representatives of a better type; and finally in the Peer Gynt suite, Meditation from "Thaïs," Mendelssohn's violin Concerto in E minor, the Hallelujah Chorus from "The Messiah," "O Rest in the Lord" from "Elijah," "One Fine Day" from Madam Butterfly, and the lovely Beethoven Trio in C, for woodwinds, the higher regions of musical expressions are entered. But this last group is not represented sufficiently in the catalogue to characterize it, and the majority of the selections are of the first and second types described above.

THE NEED OF AN ORCHESTRA.

A school such as Central High School should have a large and well-equipped orchestra. A military band would also be of great value and would fit in admirably with the Reserve Officers' Training Corps plans of instruction. Chorus singing should be thoroughly organized and supported. It might be elective or required, or both. A good plan would be to have one period per week of required chorus for all pupils, divided into some six or eight large groups, and two periods per week for an elective chorus, or perhaps for a selected chorus instead. The study of music applied under outside teachers should be credited, and the work of pupils applying for such credit should be carefully examined and evaluated. Courses in harmony and in musical appreciation might be offered immediately, but as these subjects must be elective, can be carried only by pupils who have fairly good preparation, and will be elected only by those who have a large interest in music growing out of sound experience and training, it is doubtful how large a following for them would be developed immediately.

A report of the committee on music of the Commission for the Reorganization of Secondary Education of the National Education Association was published by the Bureau of Education as Bulletin, 1917, No. 49. As one of the authors of that report, the present writer takes the liberty of quoting some of its analyses of the values of various courses in music and its general plan for music courses for four-year high schools, with reference to hours and credits:

CHORUS SINGING.

This course should be offered to pupils of all years. Although in the smaller high schools it is not practicable to divide the chorus according to years in the school, in the larger schools such division is preferable.

In interest and articulation with the earlier experience of the pupils, chorus practice appeals especially to students in the earlier years of high-school life; but in respect to voices these years are unfortunate for many pupils, and a wise selection of music material within a limited range is therefore necessary. A careful and frequently repeated examination should be made of each individual voice, and each pupil should be judiciously assigned to the appropriate vocal part.

In the upper classes, the voices being more mature, the pupils are able to undertake a higher type of music, involving not only a greater degree of experience in chorus singing but also heavier requirements for the voices. By separating the chorus classes as suggested, it is possible to develop chorus practice from a type of music easily understood and enjoyed by the immature singers to a type of artistic music requiring a considerable grasp of structure, thematic development, and musical content.

ORCHESTRA.

This study should be offered in all the years of the high school, both in the four-year plan and in the six-year plan. In the latter case it would be wise to plan two orchestras, a junior and a senior orchestra, the one serving as a feeder to the other. When the high-school course is four years in length, a grammar-school orchestra is desirable for the purpose of developing the younger material for the advanced orchestra of the high school.

The musicianship that results naturally from ensemble playing is more advanced than that which arises naturally from ensemble singing. More hours of practice and preparation are necessary before successful participation is possible; the expression of the musical thought or impulse is less direct than in singing and becomes a matter, therefore, of greater reflection; the mechanical nature of the medium of expression makes sight reading and a knowledge of staff notation more exact; the number and diversity of the orchestral parts—diversity in pitch, tonal quality, and rhythmic procedure—make the whole a richer complex than chorus work presents; and this complexity and variety have attracted composers to orchestral expression for their greatest works. Nevertheless the course in orchestra must be thorough and well organized to attain its best ends. The following recommendations are therefore urged:

First. The instruments should be played in the manner of their solo capacities, the ideals of chamber music, and the refined treatment of each part in a symphony orchestra being ever kept in mind.

Second. Music should be selected that, however easy, still recognizes these particular values for each and every instrument.

Third. The orchestra should be considered an orchestral class or orchestral study club primarily, and a factor for the diversion of the school only incidentally.

Fourth. Each student should be provided with an orchestra part for home study, and should be expected to prepare his music between the dates of the orchestral rehearsals. This requirement is especially important where school credit is given to members of the orchestra.

Fifth. Instruments should be bought by or for the school, to remain school property, and should be loaned, under proper restrictions, to students who will learn to play them. Instruments such as the double bass, timpani, French horn, oboe, and bassoon should be bought. Only by such means can orchestral richness and sonority be secured, the real idiom of the orchestra be exemplified, and advanced orchestral literature be made practicable to the students.

MUSIC APPRECIATION.

Music appreciation as a thorough intensive study of musical form, history, biography of musicians, and esthetics of music is particularly appropriate for the last two years of high school, as prior to these years the mature quality of thought and feeling in great music is largely incomprehensible to any but the exceptional boy or girl. A music experience and a technical foundation that can be gained only in the ninth and tenth years are also necessary. Two years of chorus practice, such as was outlined, or two years of harmony or of orchestra are therefore recommended prior to undertaking a thorough course such as is here implied.

Ninth and tenth year pupils, and more infrequently seventh and eighth year pupils, have nevertheless made excellent progress in music appreciation. The content of such courses, however, should be different from the content of courses for older pupils. In explanation of the difference, it may be helpful to distinguish between musical experience for the pupil and analysis of that experience and the making of generalizations from it. The course for eleventh and twelfth year pupils should be rich in musical experience. These pupils should hear a vast amount of classical music, and a broad and searching study of musical art from various illuminating viewpoints should be based upon that experience. Younger pupils should unquestionably be offered a similar rich musical experience; and this should be adapted to their years, in part by the selections of music, but more especially with regard to the amount and nature of the analysis and contributory study conducted upon the basis of the musical experience gained.

There is, therefore, need for different grades of work designated as music appreciation. These grades may extend from the mere hearing of music, with little or no comment or study, to a form of lesson in which the discussion and study range over the further fields of musical knowledge and criticism.

HARMONY.

Inasmuch as this subject demands primarily quick and sensitive perception and retentive memory, it is especially appropriate to the ninth and tenth years, though it could well be substituted for music appreciation in the last two years. The requisite talent for its study is not so great nor so rare as commonly supposed, but as interest in music is necessary it should be made an elective study.

An academic presentation of the subject, such as that found in almost all the older textbooks, is to be heartily condemned. The following features should be invariable:

(i) Ear training, carried throughout and at appropriate stages involving aural recognition of any interval, any triad as major, minor, diminished or augmented, any seventh chord (as to its intervals), of any tone and of any chord as to its scale relations, of any chord progression, or any modulation as to its harmonic procedure and the keys involved, of organ points, suspensions, anticipation; in short, involving aural recognition of all the harmonic material learned and used through the eye and symbols of notation.

(ii) Instruction in the principles of melody writing; tendencies of melodic tones, melodic contour, motivation, the phrase, the process of coherent musical thought, the period.

(iii) Harmonization of melodies (original or given) rather than harmonization of figured basses. (Thorough bass should be taught, but should constitute only a small part of the practice.)

(iv) Harmonic analysis as revealing accepted musical usage by composers of the chord material presented.

(v) Freedom and musical proficiency in the use of harmonic material. Every harmonic factor is like a new word in the student's vocabulary and is to be used by him in constructing numerous musical sentences until he is familiar with all of its merits, powers, and special qualities.

(vi) Free composition for the development of self-expression through music, the criticisms of these efforts being directed rather to their success in fulfilling the student's intentions than to the details of technical accuracy except in those points which have already been studied in the class work.

APPLIED MUSIC, OR SCHOOL CREDIT FOR OUTSIDE WORK.

Although a number of high schools are now offering courses in applied music—that is, voice, piano, violin, and sometimes even other instruments—on the same basis as the other subjects, the general adoption of this plan can not reasonably be expected for some time to come, if it ever becomes feasible.

It is, therefore, recommended that study of voice, piano, organ, violin, or any orchestral instrument, under special teachers outside of school, when seriously undertaken and properly examined and certified, shall receive regular credit toward graduation. This recommendation is based upon the following considerations:

(i) The proficiency gained in singing or playing by many boys and girls during the high-school period proves to be of great value to them in later life.

(ii) Notwithstanding that most adults believe it desirable for young people to learn to sing or to play an instrument, a severe handicap is put upon them by the necessity of attending, at the same time, to the demands of their school work; and many pupils, including even a number who expect to be musicians, abandon or neglect music during their high-school years, when the greatest progress can and should be made, rather than jeopardize their prospect of a diploma.

(iii) We regard as untenable the assumption, expressed or implied, that any individual would be uneducated if he pursued three or four regular studies per year and added music to these, but would be educated if he pursued four or five studies each year and dropped music.

(iv) We believe that this untenable assumption is due not to any active consideration of the question as to the place of music in an educational plan, but rather to a passive acceptance of traditional academic standards that are now outgrown and should be abandoned.

The plans by which such credits may be offered must be based upon the following considerations: The work of a pupil in applied music must be of a quality and standard that the school can conscientiously accept as equal to the standards maintained in the other studies pursued in the school. To this end it is necessary to be sure that the private teacher is qualified to do his work acceptably, and that the student is faithfully carrying out the lessons of his instructor. It must be ascertained further that the pupil has sufficient musical ability to warrant his spending the energy and time involved, and that he practices faithfully and diligently. The course pursued by the private teacher must be outlined with sufficient clearness to enable the school officials to recognize it as having definite plan and purpose.

TIME ALLOTMENTS AND CREDIT BASED THEREON.

MINIMUM RECOMMENDED FOR FOUR-YEAR HIGH SCHOOLS.

Music courses.	Freshman.			Sophomore.		
	Periods per week.		Units.	Periods per week.		Units.
	Prepared.	Unprepared.		Prepared.	Unprepared.	
Chorus singing		2	1/5		2	1/5
Orchestra	2		2/5	2		2/5
Glee club		1	1/10		1	1/10
Music appreciation		2	1/5	2		2/5
Theory of music (harmony and counterpoint)	2		2/5	2		2/5
Applied music, or school credit for outside work	1 or 2		2/5 to 1	1 or 2		2/5 to 1

TIME ALLOTMENTS AND CREDIT BASED THEREON—Continued.

MINIMUM RECOMMENDED FOR FOUR-YEAR HIGH SCHOOLS—Continued.

Music courses.	Junior.			Senior.			Total units.
	Periods per week.		Units.	Periods per week.		Units.	
	Prepared.	Unprepared.		Prepared.	Unprepared.		
Chorus singing		2	1/5		2	1/5	4/5
Orchestra	2		2/5	2		2/5	8/5
Glee club		1	1/10		1	1/10	2/5
Music appreciation	2		2/5	2		2/5	7/5
Theory of music (harmony and counterpoint)	2		2/5	2		2/5	8/5
Applied music, or school credit for outside work	1 or 2		2/5 to 1	1 or 2		2/5 to 1	8/5 to 4

Remarks:

(1) Orchestra: One period of double length is preferable to two single periods. It should generally be conducted after regular school hours.

(2) Glee clubs: The desirability of granting credit for glee-club work is discussed on page 23.

(3) Theory of music: This subject ordinarily should not be offered until the ninth grade.

(4) Applied music: The amount of credit recommended is based on the fact that preparation involves more time proportionately than for any other subject.

The committee recommends that the time allotment for music appreciation and theory of music be increased whenever feasible to five prepared periods per week with corresponding credit.

Detailed discussions of methods and plans for carrying on all these courses are given in the report, but space does not permit a résumé of these discussions here.

Especial attention is called to the final lines of the "Remarks" under the table, and to the use of the word "Minimum" in the heading to the table. As showing that the word is used advisedly in application to the table, quotation is next made of a description of music courses in operation in one city, and of a plan for making these courses still more useful:

A COURSE OF MUSIC STUDY SUGGESTED.

Chorus singing.—Elective chorus is offered in all high schools. The course of study also prescribes required chorus, and in high schools where physical conditions permit this requirement is fulfilled.

Most of the elective choruses rehearse one two-hour period per week; credit one-fourth credit a semester. Required chorus work is conducted usually one period per week; the credit for this would be the same, except that credit for required chorus is in excess of the 32 credits required for graduation, while credit for elective chorus is accepted as part of the 32.

Orchestra.—Each high school maintains an orchestra which rehearses as a rule one two-hour period per week, though some orchestras are rehearsing more than this amount of time. In some schools rehearsals are necessarily held after school hours, by reason of physical conditions. In two junior high schools the orchestra pupils are in a vocational music course, and their time for rehearsal is a double period (one and a half hours) per day, five days per week.

In the vocational music course the orchestra practice described is credited as one full or regular course. In that course it is not expected that preparation outside of school will be required, and the 10 hours therefore receive the same credit as a 5-hour subject requiring preparation. In the schools running orchestra two hours per week, extra playing done by the orchestra is assumed to equal a half-hour more, and the course, is therefore credited as a half-subject, with outside preparation necessary—that is, it carries one-half credit a semester.

Harmony.—A two-years' course, five hours per week, requiring outside preparation, and, therefore, carrying one credit a semester as a full subject. The work is based upon the theories of Dr. Goetschius, and his "Theory and Practice of Tone Relations" is placed in the hands of the pupils for reference and as a textbook. Only enough figured basses are used, however, to give the student a good grasp of thorough bass. Almost from the start the course assumes the nature of elementary composition, and the student is led to compose melodies and little compositions in which the chord material is used to effect as attractive a musical result as possible. The purpose is to develop musical appreciation and cause the student to enter upon a quest for beauty, as well as to give him an intellectual grasp of chord material. In short, the course has back of it the aims, applied to music, that lie back of a course in English composition, as related to literature.

Musical appreciation.—A two-years' course, five hours per week, requiring outside preparation, and, therefore given one credit a semester. The method is to work outward from musical material, which is played or sung until it is made familiar to the student, to a knowledge of form, biography, and history, and an understanding of the principles of musical æsthetics, in order to give the student sympathetic understanding in place of what would otherwise be vague musical preferences.

The study of music applied under outside teachers.—The teacher of music in each high school supervises the records, and, therefore, the faithfulness of each student's work.

In addition to the foregoing courses the course following is now submitted for adoption in the same city:

INTENSIVE MUSIC COURSE WITH VOCATIONAL OUTLOOK.

(1) Students may major in music.

(2) Work to center around *practical* (performing) *musicianship*, with a complement of general musical knowledge; the technical work to consist of individual practice alone (under outside instruction, and in the case of instruments not used in ensemble work), or of *individual and ensemble practice*, as appropriate and necessary features in case of all ensemble instruments.

(3) Work to carry 1¼ credits a semester, or 10 credits to graduate. Time, about 12½ hours per week.

The plan is to offer this balanced course for all studying solo or ensemble instruments, and at the same time enable students who do not wish this course entire, because of prior accomplishment of some of its features, or because of no vocational interest in music, to emphasize greatly one or another of its factors at the expense of the others; as harmony alone, 5 hours per week (as now offered); or 10 hours of individual practice and study alone, outside of school; or ensemble practice 10 hours in school; or musical appreciation alone, 5 hours in school (as now offered), etc.

It is, therefore, proposed:

1. To offer 10 hours per week, under careful supervision and instruction, in ensemble practice within schools. This to meet the needs

of the avocationally interested, or the advanced students vocationally interested.

2. To permit various degrees of participation in this ensemble practice, as one double period, three double periods, etc., for those who take it as a feature of the balanced major course.

(Credit: Laboratory hour credit; 10 hours, a credit a semester; other numbers of hours, as part of balanced course, in proportion.)

3. To offer Harmony (ninth and tenth years, in Intensive Course), as at present, Appreciation (eleventh and twelfth years in Intensive Course), as at present, 5 hours, with preparation, per week.

4. To permit those who take Harmony or Appreciation as part of the balanced major course to enter three of the five periods per week, with a smaller amount of written work or research work. (This can be done without minimizing the values of five-hour work and without creating serious division in the classes.)

Examples of various possible courses, all major, under the plan.

Harmony or Appreciation.	Technic with Theory (outside).	Technic (individual, outside teachers).	Technic ensemble (in school).	Total.
6[1]	0	7	....	13
6	0	0	7	13
6	0	5	2	13
0	6 to 10	0	6 to 2	12

[1] Three hours, prepared.

From all the foregoing recommendations and outlines a course should be shaped for Central High School. It is not so important that the plans be large at first as that they be of right quality and tendency. Growth and intensification will come in full measure and in due time, if courses are begun that really begin to develop the wonderful latent musical possibilities of the high-school boys and girls of Memphis.

B. VOCATIONAL HIGH SCHOOL.

While no formal instruction in music is offered in the Vocational High School, the musical activities incidentally carried on and the active attitude of the school toward these activities proved most interesting. Music is certainly a real factor in the life of this school. The only question is as to the extent and form of the superstructure that should be built upon the very reliable foundations now laid.

MUSIC AT THE GENERAL ASSEMBLY.

A general assembly, 45 minutes in length, is held once a week in the school. Two or three songs by the whole school are sung on every regular assembly program. In case of extra assemblies, the nature of the program for which the school is assembled determines the amount of music. It may be a lecture which leaves no time at all for music; but there is a strong inclination to break into song, and whenever a program can be made to provide an opening, some time is given to singing. Such a special assembly was called at the time of the music surveyor's visit, and the school sang several songs. They were all done in unison, without any effort at part singing, and, from the standpoint of a conductor of advanced choral music, the results were rough; but everybody sang with spirit and earnestness, and the live, energetic spirit of the school was expressed in the singing. A teacher of English and expression conducted the songs with real enthusiasm and skill and with the manifest approval of the group. This same teacher directs all the musical activities of the school, and brings to the task musical capabilities, personal qualities of leadership, and an earnest devotion that are of inestimable value to the development of music in the school. None of the work that is here described would be developed except for such leadership.

In addition to general singing on assembly programs, much attention is given to the presentation of special musical numbers by proficient pupils. The influence upon the musical interest of the entire student body of having individuals thus present solos for voice, or for piano, violin, or some other musical instrument, can not fail to be good.

WAYS OF DEVELOPING MUSICAL INTEREST.

In several other ways the musical interest that is in the school finds expression and is revealed to the investigator. Much special music is prepared for commencements, class plays, general entertainments, and other school occasions. The Dramatic Club (under the same teacher) presents a play every semester, and music in connection with these plays is given a prominent place. A phonograph and records belonging in the school are used in connection not only with Spanish and French classes, but to provide music for special luncheons in the school lunch room and for general exercises. There is also the nucleus of an orchestra in the school. First assembled in November, 1917, it was formally organized in March, 1919, and was preparing, during the period of the school survey, to play for the school's commencement exercises in June. The instrumentation consists of four first violins, four second violins, cornet, drums, and piano. It was surprising to learn that the school system made no contribution to the support of the orchestra, but that the organization was maintained by the dues of its members and by contributions from the graduating class. Work so earnestly done and of such value to the participants and to the whole school system deserves more encouragement.

The curriculum in a vocational school is likely to leave but scant time for cultural subjects, so called, and it might be necessary in Vocational High School to sacrifice some of the recommended music courses included in the table given under Central High School. But the very great strength of music as a vocational study has lately come to be recognized with startling suddenness. The table in a later section of this report which shows the vocational interest in music in Memphis high schools, where music has not been emphasized at all strongly, should be studied carefully. To supplement that table, it may be stated that in Pittsburgh, Pa., in 1916, after systematic instruction in music had been offered in high schools for only about four years, an inquiry into the vocational interest in music in the high schools similar to the one made in Memphis developed the fact that over 6½ per cent of all high-school students reported some degree of vocational interest. Nor should it be feared that the vocational interest will rob music of any of its cultural value or vocational study of it taint the spirit of musical study. There is a vitality in art that can not be destroyed by a secondary vocational aim; and when the idealism of young people is joined with this artistic appeal of the subject the atmosphere of vocational music classes becomes precisely that of so-called cultural classes.

With experiences and observations in mind that confirm these judgments, recommendation can confidently be made of a type of music work suitable for Vocational High School. It is recommended that combinations of outside specialized technical study, with ensemble practice and theoretical study within the school, be organized and offered. The draft of intensive courses in music given on a foregoing page of this report in the section devoted to Central High School gives detailed suggestions for such courses.

C. KORTRECHT HIGH SCHOOL (COLORED).

The aspects of music in Kortrecht High School can not be better described in brief than by saying that they exemplify further the qualities of singing by certain eighth-grade pupils described at the conclusion of the report on elementary colored schools. Nothing but chorus singing, with the attendant instruction in theory, is done; but this chorus singing is marked by great interest and earnestness, a quick response to a number of qualities of musical feeling, considerable proficiency in part singing, and a rhythmic energy and volume of tone that lead to quite effective results. There are imperfections of technic and tone, it is true, but where there is such spirit there is certain to be continued development that will in time eliminate these imperfections. To discuss them in detail should not create an impression that they are felt to be basic and formidable.

The practice of continuing treble voice music through the eighth grades has been mentioned in the discussion of music in the elementary colored schools. The first singing heard in Kortrecht High School was by a large group of eighth grade pupils, who did a two-part song for treble voices. All boys—and there were 19 of them—were assigned the alto part, all girls took the soprano part. Most of the 19 boys were basses with well-developed bass voices, but a few of them still had treble voices. The surveyor's field notebook has this memorandum: "Remarkably fine carrying of parts, of contrapuntal independence, *from memory*."

The words "from memory" were heavily underscored. It is because the "ear"—or discrimination and memory for tones—that such a performance implies is surprising, as contrasted with what we would expect of the white race. The expression "what we would expect" is used advisedly. There is some doubt in the surveyor's mind as to whether the white race lacks the musical intuition that would enable them to perform such a feat, or whether their habit of mind is such as to restrain them from the impulse and the reliance upon intuition that would lead them to attempt it.

The writer has conducted a chorus of 1,200 white boys and girls through a very elaborate cantata, Keurvel's "A Festal Day," written variously for two, three, or even four treble parts, and with a symphony orchestra accompanying, which the pupils sang, throughout its 45 minutes of length, absolutely from memory. There was no faltering on entries of parts or in melodic accuracy. These pupils were from sixth, seventh, and eighth grades. Whether a chorus of colored children could have learned to do this more quickly can not be stated. The significant fact is that white children and their teachers are not generally disposed to make such an attempt at all. Probably the disinclination arises from an intuition that it is hazardous and unwise; and probably the inclination of the colored race to do this very thing arises from an intuition that it is not at all hazardous for them. It is impossible to be certain. Only a protracted series of the ear and musical memory tests devised by Dr. Carl Seashore, of the University of Iowa, would lead to certain knowledge. It would be a most interesting and valuable work to give these tests in the most careful way to large groups of colored and white pupils, and publish the results.

The tone in this chorus was too heavy, and the head tone, potentially so beautiful at this age, was little developed. Some humming was done by the group, and the surveyor hoped this humming would develop in the next song a better voice placement, but it failed to do so. There is no doubt, moreover, that the practice of having basses persistently restricted to the treble clef, in combination with boys with treble voices, who sing an octave higher, is pernicious. These boys with treble voices perhaps suffer most, for they are continually trying to sing the parts in the way their deeper-voiced associates sing them. It is certain that they believe these parts belong down in the octave that they hear.

In this school, as in the elementary school in which the cantata was in preparation, some supplementary octavo music was noticed lying on the pupils' desks. It was pleasant to learn that this music was purchased by the board of education, in preparation for commencement, and that the board made similar contributions for earlier commencements, so that a library of supplementary music is gradually being acquired.

The pupils of the tenth and eleventh years combined gave another most interesting chorus rehearsal. The first song was arranged for three treble parts and bass, but although bass voices were present in great numbers the bass part was omitted. All boys were assigned to the third of the treble parts. Almost all so assigned were basses, but one or two who did not have such depth of voice sang as low as they could, which was somewhere between the two octaves. The dissonance was not noticeable in the ensemble, for naturally these scattered voices had little power when pushed down to their lowest limits. The injury is not to the musical ensemble, but to the musical understanding and the voices of those individual pupils. A long piece of supplementary music, in preparation for commencement, was next sung. Here at last, the only time in the colored schools, the basses were heard on music written on the bass clef. The song was for four parts, mixed voices, but the tenor part was omitted. The upper two parts were well carried, but the bass was not well established. A little listening tour among the rows of basses revealed, as might be expected, that many of the basses were still aiming an octave lower than the notes they saw. If the bass notes were high, they succeeded in getting the tone in a low octave; if they were low, they sang as low as they could, and landed between octaves. Having amazingly good ears, these boys usually veered into a chord tone, whether they struck *their* tone of the chord or not. But it admits of little doubt that this uncertainty arises from protracted association with a clef which does not indicate the tones that their voices produce.

This group, by request of the surveyor, tried a new song at sight. It was arranged for four parts, mixed voices, but only the soprano, alto, and bass parts were attempted. The pupils sang by syllables, after displaying, through answers to questions, good knowledge of technical facts. The parts were very well read and very well carried. The voices of the basses here and, indeed, of the students generally, were of extraordinary richness and power. The surveyor's notebook contains this comment, "Wonderful voices and wonderful ear for parts. No inhibitions in singing; but the tone is much too strong, is quite strident."

THE KORTRECHT BAND.

It was learned that for a long period of years prior to February, 1919, Kortrecht High School had maintained a brass band of some 20 members. It was evident from the accounts given of this band that it was held in great favor and was of inestimable value in the school and to large sections of the community as well. Nothing better could be done for Kortrecht High School than to reorganize this band at the earliest possible moment after the disturbance of conditions caused by the war has been overcome. Here is a vehicle of expression for which these students would have extraordinary aptitude, and which would cause valuable reactions upon the participants and the entire student body. The tone of band instruments, because of its fullness and power, is not only attractive to a race of their temperament, but it calls forth the more virile and well controlled phases of their musical responsiveness. The idiom of band instruments, separately and in ensemble, is characterized by weightiness of progress and by firm, incisive rhythms that similarly appeal to what is best in their types of feeling. The discipline of band practice, with its number of parts to be fitted together in fine coordination, is as great as that of orchestral practice, and is felt by the listener as well as by the performers.

Again, the band is connected with patriotic and military use in the thought of all people, and it acquires something of heroic character from those associations, as well as from its natural idiom of expression. Best of all, its uses are along avenues that are much more frequently open to the colored people than are those in which the orchestra, the piano, or the pipe organ finds use. Vocationally, therefore, there is a reasonably good outlook for the colored band musician. Many of the orchestral instruments, such as the oboe and bassoon, are rarely used except in the symphony orchestra, and their mastery by a colored musician, for purposes of orchestra work, would have but small vocational outlook. But these same instruments are used in large concert bands, and there the outlook would be brighter; and for all the other instruments used in band there is every promise. Small orchestras offer a field for the colored musician, and cornets, clarinets, trombones, and drums, used in band, carry extensively over into the orchestral field. The flute also, while not used in small bands, is useful in large bands and in any small combination of orchestral instruments. The saxophone, unwillingly admitted by most band leaders into the military-band family, and not tolerated at all in the large orchestra, is yet gaining a firm foothold in band work; and in small combinations of instruments played for dances, dinners, and in cafés and similar places, it offers more lucrative possibilities than almost any instrument, notwithstanding its small claims to such a position. In short, if to the band instruments we add violin and bass, we have a large group of the instruments that promise best returns to the colored player. Many of these instruments are common to both band and orchestra, with the strings left over for orchestra, and some of the larger horns left over for band. Such being the balance, and in view of the above arguments, the band seems to be the best point of attack in Kortrecht High School. To develop an orchestra subsequently from the band would seem to be a wiser endeavor than to begin with orchestra and later develop a band from orchestra. Because of both its idiom of expression and the vocational prospects it opens, the band seems most appropriate.

Courses in harmony and in musical appreciation are not recommended for Kortrecht High School. At present they lie outside both the range of needs and the range of interests of the students in general. They lead where the students are not going. Exceptional individual talent should be given every opportunity and all assistance toward development, but such cases should be treated specially. Our schools can make expensive provision only for the development of the majority.

Credit for outside study, duly examined and approved in the light of inflexibly high standards, should unquestionably be given. To stimulate such individual musical endeavors is certainly right and imperatively right. Because of both avocational promise and possible vocational outlook, individual musical study may mean much in the life of the person studying: and success along either line will be a benefit to society at large.

CHORUS SINGING SHOULD BE DEVELOPED.

Chorus singing such as is now done, improved gradually by better assignments of parts and better tone production, should be developed to the uttermost. The Negro loves to sing, and he *can* sing, so wonderfully that he gives untold pleasure to himself and to the whole world. In his hours of relaxation is there anything better that he might do? Here he must find his soul, the soul of his race, and learn to express it, and by expressing it develop it.

THE BEST IN NEGRO MUSIC SHOULD BE CONSERVED AND DEVELOPED.

There is but one untoward outcome to guard against; he should be true to the development of his own nature by holding to that which attracts and exalts him and not yield to the human tendency to try to advance along lines of development appropriate to different natures. To this end the musical leaders of the race should hold fast to the best in Negro music and develop it in accordance with its germinal tendencies until a racial art is grown. Burleigh's songs even now point the way. Meanwhile portions of the traditional forms of the musical culture of other races that amalgamate readily with the quality of expression of the Negro need not be shunned; in fact, can not be avoided. Just as the Negro has taken the musical scales of our modern white races and molded them to his uses, so will he take other features of our music. The prime need is for him to cling meanwhile to his own traditional songs and his own paths of development of them. Happy will that day be when some musician and educator of the colored race produces school music books filled with music true to racial qualities upon which the children of his race may come into full realization of all that is best in the normal potentialities of their natures.

4. GENERAL ASPECTS OF MUSIC IN THE COMMUNITY AND IN THE SCHOOLS AND THE RELATIONS BETWEEN THEM.

The first hasty and, it must be confessed, somewhat hazy generalization that came to the surveyor in Memphis was that the southern people do not so much have art as they live art. In other words, many of the qualities of life that art hopes to bestow on humanity are there without the art that tends to produce them. As typical of these qualities we may mention the quick response to all that appeals to the feeling and imagination, the prevalence of a large humanitarian sympathy, a love of human living rather than a predilection for mechanizing life toward material production, and an abundant love of beauty, whether it be the beauty of nature, beauty in the furnishing of the home or the shop window, or taste in dress. There is a comparatively unhurried acceptance of life; and the spirit of art is largely that of appreciation of the graces and beauties and fine qualities of life as it is (if we live it right), while the spirit of industrialism is largely that of hectic remaking of the world according to some man-born plan which man fancies will make it yield to him satisfaction.

Is the old tradition of the South, this tradition of refinement, culture, hospitality, to be overborne by the pressure of a mechanistic system of industrial life? John Collier warns us that a culture (meaning by a culture the sum of the moral, esthetic, and social creeds of a race) does not perpetuate itself automatically. The culture of Athens perished until for ages it was not even a memory in the human stock that descended from its period; the culture of Florence perished likewise. So, he says, may the culture of our forefathers perish if none seek to conserve it. Is the South seeking to conserve that which has given it its place in story, its charm and value in the eyes of the world? It is probably on the verge of ceasing to *live* art; will it further fail to *have* art that will work toward preservation of its old spirit? Out of art and high traditions that migrated across the Atlantic with the first Virginians did the old culture spring. In the wilderness art as something objectified was forgotten, but the spirit of it survived. Will the spirit now perish? And if it does, must not the art be revived that first gave it birth in order that a new birth may come?

In the adult community strong forces are working to preserve musical art, develop it more richly, and make it function in the lives of the people. It will be a lasting pity if it does not take deep root in the lives of a people so predisposed toward it. There is danger, instead, that it will be put on a shelf as something remedial, to be applied at night to heal the ills which the day has generated. Art so conditioned, art that is not an expression of the full life of a people but is instead antidotal to their real life, is a dead thing, a shallow hypocrisy.

FACTORS IN CONSERVING AND DEVELOPING MUSICAL ART.

Where can art be put into the lives of the people in a basic way—be put, so to speak, into their cellular tissue, to become a part of them, and not something too objective, which they possess or seek to obtain possession of? In the schoolroom. There the basic development must begin. In the adult community the tendencies developed should merely be finding natural expression. The question to which we are addressed, therefore, is whether the schools in Memphis are doing their part, and whether the music in the city outside is an expression of that which the schools have created, or, instead, whether the musical forces in the city are performing a dual rôle of developing the musical tendencies of the community and expressing them at the same time. It should be said that there is, of course, no sharp line of division. In any city there will always be large developmental forces at work outside of the schools, and always the schools, to some extent, will be a field for the expression of development thus originating outside. In a normal situation, however, there will be an almost perfect balance between the two, with respect to the extent to which they exchange duties, and with respect to the power with which each discharges its own characteristic responsibilities. Normally, each will contribute to and stimulate the other.

We have seen what the schools of Memphis are doing; we are forced to acknowledge that the city is doing better. These are the facts that force the conclusion.

The schools have done little or nothing to develop orchestral playing. Yet since 1906 there has been almost constantly in the city an orchestra of almost symphonic proportions containing a large number of players who were, at the time of their membership, either students in high school, or who had been students in high school while getting the musical training that enabled them to attain to membership. Moreover, the musical life of the city is more nearly up to standard than is the musical life of the schools.

A brief survey of musical activities may serve to confirm this.

MUSICAL ORGANIZATIONS OF THE CITY.

The Philharmonic Orchestra Association we have already referred to. It was succeeded by the Beethoven Orchestra, which, in turn, developed into the Memphis Symphony Orchestra. It is true that this, the most ambitious attempt, was not long continued; but the fact that Memphis, some nine years ago, developed even for a time a symphony orchestra, is significant. Though it was broken up, the impulse survived, as represented again by the Beethoven Orchestra. Finally came the Soldiers' Aid Choral Society and Orchestra, the instrumental part of which is now in process of development again into the Philharmonic Orchestra Association. Never has this light quite gone out.

In 1918 Memphis paid approximately $5,700 for band music in her parks. This provided a band of 25 men and conductor, playing seven concerts per week for a period of 10 weeks. The band was constant in personnel during that period, and therefore had the one indispensable condition for a good ensemble. Cities of equal size can be found that appropriate more than this amount for the same purpose, but taking all cities of approximately equal population in the United States, the amount Memphis paid is probably far above the average. In Detroit, a much larger city, the appropriation in 1917 for the same purpose was $11,000; for 1919 it was $17,500. In a report on this feature of community life very lately received from a number of cities, Detroit states: "The difference is accounted for by the fact that there was an increase in the wage scale and because the number of men in the band was increased from 32 to 40. Their season is from June 22 to September 1, inclusive." This quotation is made as giving evidence that other cities have encountered the increase in wage scale that threatened to deprive Memphis of her park concerts at the time the surveyor made his inquiries. As in almost all cities, community singing was a feature of the Memphis programs during the war. It is to be hoped that such singing will not be thought of as appropriate only to war time.

An organization that has performed a large service for Memphis generally, as well as for its own membership, is the Beethoven Club. The practice which this organization follows of giving Saturday afternoon concerts free to the public, though the club defrays the cost of the auditorium for the purpose, is most praiseworthy.

In 1916–17, and again in 1917–18, the club maintained a public school music committee, and for a time this committee undertook a series of programs given in the schools for the pupils. The movement met with hearty appreciation from the schools, but was gradually discontinued, largely because of the difficulty, always encountered in such endeavors, of obtaining throughout a long period the services of a comparatively small group of members to sing and play at the hours during which the schools are in session. Several persons connected with the schools commented regretfully to the surveyor upon the abandonment of the movement. The Beethoven Club also gives three artists' concerts each season and maintains a study class for its members which meets twice each month. Its connection with the orchestral developments discussed above was exceedingly earnest and helpful.

Besides this large organization, Memphis has the Rennaissance Club, the Morning Musical Club, and the Repertoire Club, all of which confine their activities to their own membership, and represent those earnest groups which in every city carry, by indirect means, a large stimulation to the better thought of the community. In the Piano Teachers' Association, however, another type of organization is encountered. There is always opportunity for progress and promise of it when professional people gather together. Moved by unity of purpose, affiliated by like experiences and similarity of ideals, and having definite and practical connection with the affairs to which they turn their attention and efforts, they are capable of effecting lasting improvements. The Piano Teachers' Association of Memphis proved to be no exception. Though an organization of comparatively late birth, and by the implication of their title devoted to a limited interest, they are scanning the whole Memphis field earnestly, with the single desire, in the surveyor's judgment, of giving a better musical life to the people of the city.

THE INTEREST OF THE CHAMBER OF COMMERCE IN MUSIC.

The chamber of commerce of Memphis has a music committee. Ordinarily if a chamber of commerce has a music committee at all, it restricts its functions to providing incidental music for occasions in which the organization is interested for other than musical reasons. The music committee of the Memphis Chamber of Commerce did better. It turned impresario and brought to Memphis the Scotti Opera Company for two nights of opera. The appearance of the opera company in Memphis was its first. Evidently the committee retained some of its business acumen in the venture, for it cleared $1,500. Now it is suggested that this be held as a fund to finance the development of high-school orchestras, and that the chamber of commerce repeat the undertaking from year to year for the continued benefit of such a fund. The plan is ideal. If it were carried out, Memphis would not only accomplish local results that would appear to be little short of miraculous, but it would gather a reputation over the United States that would exceed the reputation it has as a lumber center. This is not said idly; it is a prediction. The plan continued vigorously would challenge the attention of leaders of thought along social lines all over the United States; and these form a large and commanding group.

It is perhaps needless to say, after giving an account of such a brilliant achievement, that the chamber of commerce supports all endeavors looking toward the development of community music.

Memphis supports two series of concerts annually, one of which aims chiefly to present in due season all of the greatest pianists of our day, as well as some of our great orchestras; and the other of which brings to Memphis brilliant assemblages of leading operatic singers and attractions not less noted from other musical fields. The only limitation, indeed, to the provision of all that is best in music seems to be the lack of a large, comfortable, and acceptably located auditorium. This is a misfortune common to many cities; but in Memphis even this handicap will probably be soon removed.

A STUDY OF THE EXTENT OF PRIVATE INSTRUCTION AMONG SCHOOL CHILDREN.

The private teachers of music in Memphis have not by any means been idle. One of the inquiries prosecuted in Memphis in connection with the music survey was the amount of private study of music undertaken by pupils from the third year in school to the senior year in high school, inclusive. The tables following give the results of the inquiry. It is unnecessary to repeat the questionnaire here, as the table shows what questions were asked.

White schools, elementary—grades 3 to 8, inclusive.

Number taking lessons		833
Number reporting cost		756
Subject of specialized study:		
Piano	735	
Voice	4	
Violin	65	
Cornet	4	
Harp	2	
Organ	1	
Bugle	2	
Fife	6	
Drum	4	
Guitar	1	
Ukelele	16	
Banjo	1	
General music	6	
Cost reported:		
Per month		$4, 677
Cost in 9 months		$42, 093

This table has been greatly condensed. Much additional comment and explanation are needed.

All of the white elementary schools are not represented, and some that are represented are not fully accounted for. The schools not included at all are Church Home, Lauderdale, Leath Orphan, Open Air, Jefferson Street. Of these, Lauderdale is probably the only one that would have greatly increased the totals. Schools reporting, but probably incompletely, are Leath (third grade missing), Madison Heights (third grade missing), Pope (eighth grade missing), and Smith (fifth, fourth, and third grades missing). The close of the school term came too early after the omissions had been discovered to permit of renewed inquiry.

The results were reported and tabulated by schools and grades. It would be possible, therefore, to show the geographical distribution of study, and the distribution according to age, but it was thought that this additional detail would not have value commensurate with the space it would occupy and the difficulty of quick interpretation that it would cause.

The distribution by subjects of study gives an aggregate of 847 pupils studying, which seems irreconcilable with the total of 833 reporting any study. The discrepancy is explained by the fact that 14 of the 833 pupils study two special musical subjects. Piano and violin, or piano and general music, are frequent combinations.

The table is extraordinary in point of certain omissions. It seems inconceivable that not a single pupil reported the study of flute, clarinet, trombone, violoncello, or bass. There is the utmost need for stimulating the study of these and other orchestral instruments by organizing little groups of any orchestral instruments whatever in every school where a nucleus of two or three instruments can be formed, and then making strenuous effort to supply the instruments needed for richer effect, in the order of their value to the group. *The purchase of instruments to be owned by the school is imperative.* If the board of education can not purchase them or can not purchase enough of them, private contributions from outside sources and proceeds from concerts and school entertainments should be secured and used. It is doubtful whether many cities of the size of Memphis would show such a narrow outlook upon the field of orchestral instruments. Surely these missing instruments are known and loved for their beautiful musical possibilities. On the other hand, the presence of students of the harp in elementary schools is almost as extraordinary in a favorable way. Very few cities of even much greater size would disclose a single such student.

The fife, bugle, and drum students are created through the activities of the Boy Scouts. No one wishes to restrain them in the least; but why not develop the drummers into tympani players, the buglers into trumpet or cornet players, the fifers into flute players? They would be all the more competent in their original capacities.

The vogue of the ukelele must be accepted as gracefully as possible, it seems. Yet parents might be advised to spend money in giving their children instruction on some instrument that has real music written for it, that has, indeed, a noble literature and broader musical possibilities, and that the child will not be ashamed to play after he is 20 years of age.

The number of lessons per week taken by each pupil was stated in the reports and was tabulated, though not included in the table. Two lessons per week are taken by the great majority of pupils.

A number of additional facts could have been ascertained from the reports, as, for instance, the average cost per lesson, and this cost in different neighborhoods and for different instruments. A detailed analysis, however, would have extended quite beyond the proportions of space which this one inquiry deserves.

We pass to the next table.

Colored schools, elementary grades, 3 to 8, inclusive.

Number taking lessons		191
Number reporting cost		174
Subject of specialized study:		
Piano	170	
Violin	14	
Voice	14	

Colored schools, elementary grades, 3 to 8, inclusive—Continued.

Subject of specialized study—Continued.		
Cornet	3	
Drums	1	
Ukelele	1	
Cost reported:		
Per month		$352.03
Cost in nine months		$3,168.27

Carnes and Charles Avenue schools are omitted. The omission of Carnes probably diminished the totals greatly. One school is probably incomplete, but not in such measure as seriously to affect the total.

Two pupils are evidently pursuing two lines of study each.

The variety of subjects is reduced below that shown in the preceding table.

The average cost per lesson is only about one-third that disclosed in the table of white schools.

As bearing on what was said regarding the probable liking for band instruments on the part of the colored students, it should be observed that 3 of 191 pupils are studying the cornet against 4 of 833 pupils in the preceding table.

The percentage of study of the ukelele and banjo is lower.

The questionnaires submitted to high-school students embodied two inquiries not included in those submitted to the pupils in elementary schools. One of these inquiries was designed to bring forth facts that would disclose the amount of vocational interest among high-school students; the other aimed to discover the amount of study undertaken and abandoned, and to ascertain the causes that lead pupils to "quit taking music lessons." In pursuit of the second inquiry these two questions were asked: "If you are not taking lessons now, have you taken lessons in the past?" "What were your reasons for quitting?" Unfortunately, preceding questions had inquired whether pupils were at present taking lessons, and what special study they were pursuing, if they were taking. The result was that pupils who had taken lessons but had quit conscientiously reported the name of the instrument they studied when they were taking. This accounts for the great excess of students of piano, plus violin, plus voice, etc., over the total number of students now taking lessons, or over the number that have taken lessons. It will be observed in evidence of this fact that the total of all numbers under the separate subject headings almost equals the sum of those now taking and that have taken lessons. A little study of the table, which follows, will make this clear.

Central High School.

Number taking lessons		146
Number that have quit		230
Subject of specialized study:		
Piano	289	
Voice	10	
Violin	27	
Cornet	7	
Harp	1	
Fife	1	
Drums	2	
Ukelele	4	
General music	29	
Cost reported:		
Per month		$930.15
In 9 months		$8,371.35
Reasons for quitting:		
Moved	29	
Lack of time	81	
Not interested	76	
Health	8	
Finances	11	
Would not practice	3	
Vocational experiences and aims:		
Have earned money	16	
Now earn money	9	
Expect to earn	9	
As critic	2	
As performer	24	
As teacher	34	

Fortunately the pupils who have quit taking music lessons did not state the cost of their former lessons. If we assume that the $930.15 per month is the cost to the 146 pupils now taking, an average cost of $6.37 per month per pupil is obtained. This is a reasonable general average, and the outcome is sufficient evidence that only cost of current lessons was reported.

The remarks under the table for white schools on the distribution of subjects of study and the startling omission of many instruments apply here. The harp, it may be noted, again appears as a subject.

Among the reasons for quitting, which are the usual ones, lack of time is prominent. This fact should give weight to the arguments for crediting outside musical study. The total number giving reasons for quitting is 208; the number reporting is 230. Only 22 state no reason.

The report of vocational interest is unexpectedly large. The school gives so little standing to music that one would expect even robust interest and ambition to decline. Nevertheless, 34 students profess a vocational interest or experience, or both. Of these, 25 have earned or are earning money. The value to the student of these incidental earnings is very great; and in later life one may observe anywhere the number of persons who pursue some business or profession other than music, but who earn as much in music as in their avowed pursuits. All of the 34 expect to teach, 24 of them expecting also to play or sing professionally, and 2 expecting to teach and serve as musical critics as well. Have these 34, and others who would be developed by proper conditions, no claims upon the school system? They are only 3 in every 100, it is true, but schools in which music is broadly and intensively developed give a much larger percentage. And how many pupils in every hundred are going to follow any one other line of activity?

The tables for Vocational and Kortrecht High Schools may be scanned largely in the light of these observations.

Vocational High School.

Number taking lessons		6
Number that have quit		13
Subject of specialized study:		
Piano	12	
Voice	1	
Violin	2	
Cornet	1	
Fife	1	
Drums	1	
Ukelele	2	
General music	2	
Cost reported:		
Per month		$44.00
In 9 months		$396.00
Reasons for quitting:		
Moved	5	
Lack of time	4	
Not interested	1	
Health	1	
Vocational experience and aims:		
Have earned money	1	
Expect to earn	5	
Expect to be musician	4	

For explanation of the discrepancy between the number taking lessons and those taking piano, etc., the reader should refer to the comments made on the table for Central High School.

In addition to the analyses of preceding tables, which apply as well here, it may be pointed out that in this school five of the six pupils who are now taking lessons expect to gain at least a part of their livelihood through music, and four expect to become musicians, which probably means that they expect to gain all their livelihood through music. There is such musical impetus in this school that if the practical musical advantages recommended for it herein were offered the numbers of students interested would undoubtedly increase. Probably vocations now taught in the school are not thought to be superior, but if music is equal to shop work why not spend a fraction of the sum necessary to install shop work in installing courses in music. Much could be done with little expense except for the salary of a teacher.

Kortrecht High School.

Number taking lessons		29
Number that have quit		27
Subject of specialized study:		
Piano	40	
Voice	3	
Violin	2	
Cornet	1	
General music	12	
Cost reported:		
Per month		$56.57
In 9 months		$509.13
Reason for quitting:		
Moved	11	
Health	6	
Finances	7	
Vocational experiences and aims:		
Have earned money	13	
Now earn money	5	
Expect to earn money	45	
As critic	3	
As performers	5	
As teacher	35	

This table is full of interesting implications. The cost of instruction is exceedingly low, less than $2 per month per pupil on an average, and most of them take two lessons per week. In connection with this, the number that have earned, are earning, or expect to earn money by means of their music should be noted. Obviously, these students of music teach others at an early age and at a low price for the instruction. The percentage vocationally interested is exceedingly high. Taking the number 45 as the total so interested (since within this 45 it is possible that the others are all grouped), we find that over 11 per cent of the pupils in the school expect to earn money through music. Of these, 35 expect to teach, 5 expect to be performers, and 3 expect to be critics. Of course, these last students do not know what this claim implies; but there is little question but that the entire 45 intend to earn and will earn money by means of music, largely through teaching others and playing. The desire to have at least some little instruction in music is practically universal with the colored people. It is not important what relation their possible attainments may bear to the development of the great music of the world. The important query is what relation it bears to their contentment, pleasure, and well-being in life. Do not these results in Kortrecht High School give any suggestions as to the future racial life of the Negro and what must be done to minister to it?

THE MONEY COST OF PRIVATE INSTRUCTION.

These tables can not be left without a word or two more of comment. In the aggregate they show that 1,265 boys and girls in the Memphis schools are studying music outside of school at a cost of at least $54,000 annually. This figure is for lessons during nine months only and is probably too low. One is impelled to ask why citizens who have such regard for a subject that they will spend this sum annually for it will take such small interest in advancing much more economical instruction in the schools. True, public schools do not, except in a few cases, teach pupils individually to play the piano, but they can and should give instruction that would stimulate the child's interest in his outside musical study, give him far greater intelligence and taste, and save many hours of instruction from his music teacher on rudiments that he should have learned in school. In short, the schools can and should give the special student everything musical except the specific technic of his special branch, and they should awaken his desire to undertake that and become proficient in it.

THE TRI-STATE MUSICAL EXAMINING BOARD.

In connection with the private teaching of music in Memphis full value must be attached to the work of the Tri-State Musical Examining Board. No better effort can be made in the cause of music than to improve standards of teaching by guarding against the operations of poorly prepared and unprofessionally-minded teachers. Strong efforts have been made in several States to have music teachers certified by the State, but little has been accomplished. It was most encouraging to find that Tennessee, Mississippi, and Arkansas are banded together in a movement that, while it does not crush out the incompetent teacher, yet does give high authority and recognition to all competent teachers who wish to aid the cause of music and the cause of the music teacher by coming within its operation. The Tri-State Examining Board was founded in 1914 and was incorporated under State laws in 1917. A careful study of the handbook issued by the organization gives indubitable evidence of its high standards, wise regulations, and efficient administration. The function of the board is to give examinations to all applicants upon payment of the examination fee, and to award to those who are successful certificates of proficiency and ability to teach. These certificates may be accepted unquestionably by students and parents as giving full assurance of the entire capability of the instructor. The board will undoubtedly do much to raise standards of teaching in the three States in which it operates. It would be well for other States to adopt like measures.

As has been admitted, music in the public schools of Memphis does not have the quick forward look and the optimistic energy that characterize some of these features of musical life in the community outside and in the State. But as we glance in review at these latter we are struck by the fact that those features that are most progressive are comparatively recent. The teaching of music in all the schools of the State has been required for two years. The activities of Max Schoen in the eastern end of the State do not greatly antedate the State requirement; and Mr. Schoen tells us that the East Tennessee Normal School only since that date doubled its musical requirements for prospective teachers, and that teachers and the large rural population alike are quite uneducated musically. His efforts have been greatly in the direction of preparing teachers to teach at least the crude beginnings of music. The West Tennessee Normal School is of late date and has not provided for an adequate program of musical instruction. The Tri-State Musical Examining Board dates only from 1914, and its charter only from 1917. The chamber of commerce brought the Scotti Opera Company to Memphis only last year, and the suggestion to use the fund acquired for the benefit of a school orchestra movement is later yet. The private teachers have performed a large service, but why are there not musical developments in Memphis that would give impetus to the study of the flute, clarinet, trombone, violoncello, bass, and other instruments? The schools could not be expected to be first in creating interest in these. Even the cornet is but slightly studied.

The conclusion is irresistible that the State is undergoing a general musical awakening, is acquiring an ever more acute consciousness of itself musically, and of the needs and possibilities of those outside the circle of a small group musically advanced. But it might be asked whether the public schools should not lead in all such progressive awakenings in the community. Perhaps they should; but they do not. Public schools deal with children, largely of tender age, many of them mere infants. The parents are the constituency of the schools, and the schools try to bring these children up to the sort of an education that the majority of the parents hold in dim conception as the right one. The public schools are, therefore, prone to follow and not to lead. If music does not seem a vital, an urgent thing to the majority of parents, then music will not be vigorously taught. It would be interesting to know just how many parents have helped to demote music in the esteem of grade teachers by asking to have their children excused from it. It would be interesting to know how much interest has been displayed by parents—not groups of musicians, who will always be regarded as special pleaders, but just average parents—in the form of inquiries to teachers as to how their children were doing in music, and would not the teacher take especial care that their children learn music, etc.

But while the public schools in Memphis have not taken the initiative, and while we can understand, in part at least, why they have lagged, it is their clear duty to meet the present advancing demand by a response that will not only balance it, but that will in turn cause the demand to again advance. What must be done to so meet it? We have indicated in great detail some changes that should take place. A few words as to administrative plans remain to be said.

THE SUPERVISION IN MEMPHIS SCHOOLS.

In the music department of the Memphis public schools there are two supervisors for white schools and one for colored schools. In white schools a supervisor visits each elementary schoolroom once in seventeen school days, in colored schools the supervisor visits first and second grades once a month (20 school days), grades above the first and second once in two weeks, the high school once every week.

The time prescribed for music by the school authorities is 75 minutes per week, or an average of 15 minutes daily, to be distributed as seems best. This is not enough, except for first grade classes. It is difficult to see how a supervisor in white schools can stay even 15 minutes in a room on the occasion of her visits. As one supervisor teaches three days each week in Central High School and only two days in the elementary schools, but seven days of supervisory work are possible in the week. In the 17 days during which all elementary rooms are visited there are thus 23 days of actual supervisory work from the two supervisors. But the schools which they must visit have a total of 369 rooms, which gives an average of 16 rooms per day to visit and instruct. Geographical distribution of schools always affects the time element, and causes loss of time. Adequate supervision includes the giving of model lessons, observation of the work of the grade teachers, conferences with individual teachers, conferences with individual children, and perhaps consultation with the principal of the school and occasional special rehearsals for some program. All of this can not possibly be done in the time allotted. On the other hand, visits at greater intervals than now held would be altogether too infrequent. The situation needs close and strong supervision, what a noted superintendent once alluded to as "short-arm blows." The supervisor in colored schools visits first and second grades too infrequently, but stays 20 minutes in a room in all of her visits to first, second, and third grade classes, 30 minutes in all intermediate rooms, and 45 minutes with each group in the high school, which she visits once a week. Each high-school group has in addition two 15-minute periods per week for music. The length of lessons given by the supervisor is satisfactory, but such lessons are too infrequent. More supervision is needed.

In addition to visits to all schoolrooms, supervisors conduct meetings of teachers in which they give instructions in the content and methods of instruction for the outlined course. These meetings are held once a month each for two groups, one group consisting of teachers of first, second, third, and fourth grades, the other of teachers of fifth, sixth, seventh, and eighth grades. Attendance on these meetings is mandatory. A weekly meeting is held in addition, which is open to teachers of all grades who wish to attend.

The total outlay in the school year 1917–18 for music in the public schools in Memphis was $3,540. This was paid in salaries to the three supervisors. Such other items of expense as were incurred were so small as to be negligible. This is probably a low record for expenditures for music.

The surveyor believes in the future of Memphis, the future of her schools, and the future of music in her schools. There is native culture there, native talent, sympathy, good impulses, and motives by the score, and no bad ones. The time has come now when these must work in practical ways to achieve the values that belong to them. They have been idle or misapplied, not dead.

5. SUMMARY OF RECOMMENDATIONS.

1. Provide a copy of each of two or three good books of rote songs for the desk of every first and every second grade teacher. (This would devolve upon the board of education.)

2. Provide every teacher with a pitch pipe and require and instruct teachers in its use. (Board of education and music department.)

3. Restrict compass of first-grade songs to middle C as low tone, second-grade songs to an occasional B flat as low tone. (Music department.)

4. Issue a carefully selected list of rote songs for first and second grades and require teacher to stay within this list or to use no other songs except on approval of the music department. (Music department.)

5. Recommend specific songs that begin on C, third-space, treble clef, or higher, to be used in first grades at the beginning of every semester. (Music department.)

6. Instruct all first and second grade teachers in methods of correcting monotones and proceed vigorously and systematically to put the methods into practice. (Music department.)

7. Discard most of the motion songs—at least, all that have any large muscle movements—and songs that deal with rough narrative subjects. (Music department.)

8. Develop the light head voices of teachers and children and secure a tone about one-half as loud as that now in use, but that will be pure and flexible. (Music department.)

9. Teach rote songs by first singing them *entire* two or three times over, words and music, to the children, using a small, pure voice, pronunciation forward, at the lips. Then sing a phrase at a time, each phrase repeated several times, and do not let children sing it back to the teacher till she feels they will do it successfully. Continue so to the end, occasionally singing connectedly all phrases from the first up to the point then reached. Have quiet, sensitive attention, the children listening intently to the teacher. Do not say words separately except in case a word is misunderstood by the children and mispronounced. Then tell the children what the word is, but do not ask them to recite the text. (Music department.)

10. Begin individual singing in first grade and continue it to sixth grade, inclusive, at least. Such singing is to be on music that the class has sung acceptably in concert. Have two children—the first two in a row—stand. The first sings a phrase; as he finishes and sits down, the second child sings the second phrase; and the third child stands as the second begins. The phrases should flow smoothly. Do not be afraid to supply a phrase or help if a child falters. Do not stop and drill a child until the attention of the class wanders. It is not a lesson; it is making each child individually responsible for his part and is informing the teacher of the extent of her problem and the abilities of her class. Also, the practice supports attention throughout a drill that entails many repetitions. (Music department.)

11. In second grade begin ear training by having pupils syllabize short successions, such as 1–3–5, hummed by the teacher, and then write them. *Take these fragments from the music of the current lesson.* Continue this practice into the advanced grades. Make it involve recognition and writing of each new rythmic and tonal feature. (Music department.)

12. Do not permit pupils to sing wrong tones to right syllables or wrong syllables to right tones. Be ready to supply the tone or name they are likely to miss or stop them and exemplify it and have them sing it back individually if necessary. (Music department.)

13. Do not begin two-part singing till fourth year. (Music department.)

14. Have some boys and some girls on *each* vocal part up to the seventh year, but not necessarily including that year. (Music department.)

15. In seventh and eighth years find out what the register of the various children's voices are and assign each to a part that conforms to that register and is notated on the staff exactly within that register. (Music department.)

16. Provide much supplementary music for seventh and eighth grades, some of it for treble voices alone, some including bass clef. Use either kind in either seventh or eighth grade, according to the voices present at the time. (Board of education and music department.)

17. In practicing part songs for treble voices have *all* pupils sing and learn each and every part successively by syllables, then words. Then try the group on the parts together. (Music department.)

18. See that teachers and boys understand the voices of boys in seventh and eighth grades, the bass clef in relation to the treble clef, and the voices of the boys in relation to both of these clefs. (Music department.)

19. Never permit both basses and trebles to sing the same part, except in a unison song. (Music department.)

20. Abandon music examinations. If proper written work is given and the teacher is as observant of the singing as she should be, the status of every child will be known better by daily work than it can be by an examination. At least examine only pupils whose daily work is known to be well below average. (Music department and superintendent.)

21. Discard stereotyped definitions that afford only a memory test and give no indication of musical power. (Music department.)

22. Restrict theoretical knowledge to knowledge of the music being sung and believe that the test of it is found in the musical capability of the pupils. (Music department.)

23. Abandon so-called "music appreciation" *study* in eighth grades—at least until eighth-grade pupils can make music themselves that the hearer can appreciate. (Music department.) (N. B.—This does not mean that the pupils may not advantageously *hear* good music, be filled with a good musical experience.)

24. Ascertain in every school every semester what orchestral instruments are being studied by pupils in that school and how far advanced each pupil is. (Music department, through teachers.)

25. Invite professional players of orchestral instruments, singly and in groups, to come to the seventh and eighth grade classes in as many schools as possible, and describe and illustrate the uses of their instruments. (Music department.)

26. Speak often of various orchestral instruments and school orchestras. Encourage study of the instruments and the organization of school orchestras. (Music department.)

27. Provide music, equipment and at times instruments for school orchestras. (Board of education, music department, citizens.)

28. Require every teacher, present and incoming, to give evidence of a necessary minimum of musical knowledge, or acquire it within a given time. (Board of education.)

29. Work as rapidly as possible toward abandonment of the departmental plan of instruction. (Music department.)

30. Increase the time allotted to music in second, third, fourth, fifth and sixth grades to 100 minutes per week, in seventh and eighth grades to 100 or 125 minutes per week. These are average allotments over the United States. (Board of education.)

31. Supervisors should allow an average time per room in each school visited of at least 20 minutes. This should be done even if at present, as a result, a supervisory visit to each room could be made only once a month. (Music department.)

32. Supervisors should give a model lesson in each room visited, ascertain the status of the work undertaken by the teacher since the supervisor's last visit, outline the work for the next similar period, make a beginning on such new work as the teacher feels will be difficult for her, and explain to the teacher the manner of continuing the work begun. If time is too short for instruction of the teacher appoint a time when the help may be given. (Music department.)

33. Provide more pianos and at least one portable organ for each school as rapidly as possible. (Board of education.)

34. Increase supervision in the white elementary schools by assigning two supervisors to that division alone. (Board of education.)

35. Employ an additional teacher of music, preferably a man, who is a thorough musician and has had educational training or experience, or both, that render him capable of teaching the entire range of musical subjects outlined herein in the table of courses and credits given under "Central High School," and who knows orchestral and band work sufficiently well to develop and conduct orchestras and bands. He need not play any of these instruments proficiently, but should be able to score well for them and guard the students' form of playing. He should be assigned to Central High School, but should be in direction of all high-school music. It should be his purpose and duty to develop as rapidly as possible the forms of work in each high school recommended herein in connection with our discussion of the music in each high school, and

such other courses, or modifications of those courses, as he might think desirable and wise. (Board of education.)

36. In Vocational High School the teacher who is now directing the music there, and teaching other subjects also, should be given more time to develop the music under the guidance, and with the assistance of, the head teacher of high school music in Central High School. In time a music teacher on full time will be needed for this school. (Board of Education.)

37. In Kortrecht High School the present teacher and supervisor of music should continue to teach and develop the music there, under the direction of the head teacher of high-school music, and according to the suggestions made earlier in this report, as these may be modified by the head teacher of high-school music. (Board of Education.)

38. Orchestral and band instruments should be provided in all high schools as liberally as possible, to be the property of the schools, but to be loaned to serious and dependable students *who make application for them.* No instrument should be bought until some such student makes application for it, unless for an immediate provision of a set of band instruments. In loaning these instruments the board of education should be protected by some such form of contract as the following, which is the one in use in Pittsburgh, Pa.:

MEMPHIS PUBLIC SCHOOLS,
Memphis, Tenn., ________________, 19__.

This is to certify that I, John Doe, of Central High School, Memphis, Tenn., have received from Mr. Blank, teacher of music in the Central High School, one double bass, one bow, one waterproof cover, one carrying strap, all in good condition, the cost of which, in September, 1918, was $92.

It is understood that this instrument with its appurtenances is to remain in my possession only during my membership in the Central High School Orchestra; at the conclusion of my membership, the instrument, with its appurtenances, is to be returned to Central High School in as good condition as is described above. Also, I am to bear all expenses for perishable adjuncts, such as strings, reeds, etc. I am to be financially responsible for loss of, or damage to, the instrument or appurtenances, and I am not to lend, rent, or sell the instrument to anyone without the written consent of Mr. Blank, or the authorized teacher of music in Central High School.

__________________________[SEAL.]

39. It should be possible for a student to graduate from high school with one-fourth of his total quota of credits made in music.

DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 6

INDUSTRIAL ARTS, HOME ECONOMICS AND GARDENING

WASHINGTON
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1920

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*

Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*

Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*

Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*

Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*

Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*

Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*

Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*

F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*

John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*

Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*

George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

PART 6. INDUSTRIAL ARTS, HOME ECONOMICS AND GARDENING IN MEMPHIS SCHOOLS.

CONTENTS.—1. Manual training—Aims and purposes; variety and flexibility to be sought; colored schools; organization; elementary hand work; relation to other studies; equipment; course of study; time allotment; nature of shopwork; library. 2. Vocational education—enrollment; program for the Vocational High School; prevocational classes; basis for selection; unit trade classes; part-time classes; evening classes; vocational school for negroes. 3. Home economics—In the Central High School; in the Vocational High School; in the Rozelle School; in the Kortrecht High School (colored); in the Grant School (colored); recommendations. 4. School gardening—time in school; Memphis a pioneer in gardening; activities of children; occupation of children; available space; teacher training; summary of conclusions and recommendations.

1. MANUAL TRAINING.

Limited provision has been made for manual training in the Memphis schools. The supervisor of art instruction has given such encouragement as was possible to the simpler forms of handwork in the lower grades. The work has never been adequately supported by the board of education, and has been confined chiefly to what a few ambitious and energetic teachers have undertaken on their own initiative.

During the past two years the energies of teachers and pupils in all the schools have been absorbed in special work for the Junior Red Cross, under the direction of the supervisor of art instruction, and a very creditable showing was made. During this period all of the scheduled work in art instruction was suspended.

In one school, Rozelle, the building contains rooms set aside for shop and storeroom, but these stand idle for lack of a teacher and suitable equipment.

In one colored school, Grant, there is a woodworking shop, with the usual complement of individual benches and tools. In the West Special School a basement room has been equipped with benches and tools, but is unused for lack of a teacher. The room is crowded and inadequately lighted, and, in general, not well suited for the purpose.

With these exceptions, and aside from the home economics discussed elsewhere, Memphis makes no provision for handwork in the elementary schools. In this respect the city lags far behind the school systems of other cities of her population class.

On the other hand, the equipment and facilities provided at Central High School compare very favorably with those to be found in other cities. The rooms available include bench woodworking shop, wood-turning shop, machine woodworking shop, forge shop, tool room, stock room, drafting room, locker rooms, etc. The benches, machines, and tools in the various shops seem to be adequate for the purposes in view, well cared for and in good condition. However, the lack of suitable guards on certain of the dangerous machine tools was noticeable.

The teaching force appears to be inadequate also, since at the time of the survey two instructors were supervising the work of four classes in four different rooms.

The equipment for bench woodworking at the Kortrecht High School, colored, may have been satisfactory at the time it was installed some years ago, but it is wholly inadequate now. The conditions of building and equipment generally at this school are inexcusably bad, and it is doubtful if renovation or repairs can make them acceptable.

The work of the Crockett Vocational School is discussed in the second section of this Part.

AIMS AND PURPOSES.

Handwork in the elementary school may be employed for the accomplishment of at least three distinct educational ends: (1) To develop manipulative skill, and the ability to "do" things; (2) to impart knowledge of materials and processes of construction; and (3) to vitalize the instruction in various subjects of study, such as geography, history, and language.

Very young children do not respond spontaneously to a program of handwork designed primarily to accomplish the first of these aims—the development of manipulative skill. They lack interest and the necessary basis for muscular control. Nevertheless, the child likes to make things, and although results are crude at first, his ideals are capable of cultivation, and from grade to grade increasing emphasis may be placed on accuracy and precision of workmanship.

Methods and processes of handwork designed to accomplish the third of these aims, vitalizing the instruction in various subjects, are well adapted to the instincts and capacities of children in the lower grades. Such work includes the arrangement on the sand table of the settings of various stories which form part of the instruction in reading, and of scenes and events selected from history and geography. It includes also the making of small articles that serve some purposes in the schoolroom, as well as the representations of a considerable variety of objects taken up in the course of the regular studies. These may include the implements used in carding, spinning, weaving, etc.; series of small models or representations of various types of vehicles, to show the development of transportation; types of tools, utensils, and the like.

Handwork, when suitably organized and presented, has a twofold educational value for young children; not only does it serve to illustrate and vitalize the instruction in the regular studies by giving a richness of meaning to words and ideas through concrete expression, thus making the instruction more effective, but it also serves in a very definite way to extend the child's field of knowledge and experience through acquaintance with a variety of materials, their most obvious properties and uses, and to a limited extent, their sources and methods of preparation for commercial use.

Work of the type first mentioned is of value chiefly as discipline, for the development of technic, muscular coordination and control, and for the development of ideals, not only of artistic excellence and fitness of an object to its purpose, but also of good workmanship and the relation between effort and accomplishment. It is important in handwork which has these objects in view to maintain constantly progressive ideals of excellence in workmanship and design, and to undertake only such constructions and processes as are reasonably within the capacities of the children.

Activities designed to vitalize the instruction in other subjects are of value chiefly for their contribution to the effectiveness of the instruction in those subjects, and for the opportunity afforded for the free play of the child's imagination in self-expression and self-direction. Here also progressive standards of technic should be applied, but not to the extent of discouraging the child from thinking and acting independently. The emphasis should be on spontaneity and the general effect to be produced by the representation, rather than upon process and technic.

That type of handwork which aims primarily to impart knowledge of materials and processes of construction is perhaps not sharply distinguished from the other two. It overlaps both, and becomes of increasing importance with the progress of the child through the grades.

These three types of work have important places in the education of young children, and should be provided for adequately in all elementary schools.

Because of the changes in emphasis, and for administrative reasons which will appear hereafter, it is convenient to divide the eight grades of the elementary school into two groups, 1 to 4 and 5 to 8, and to plan the program of handwork accordingly.

In the earlier grades the best results are secured when the handwork is taught by the regular grade teachers. It is much easier for these teachers to relate the work to the other studies and activities of the children. With the progress of the children through the grades, however, the work becomes more and more complicated, and the tools and processes more difficult of manipulation. In time the point is reached beyond which it is impracticable to expect the grade teacher to acquire the necessary technical skill and knowledge to carry on this work in addition to all the other requirements of her position.

Experience in a number of cities has shown that the fifth grade marks a convenient point at which to introduce departmental methods in dealing with certain special subjects, as handwork and music. In case it is impracticable to employ a teacher to give her entire time to a special subject, as handwork, it is sometimes possible to secure very satisfactory results by a division of labor among the grade teachers in a building. Under this plan one teacher would be assigned all the handwork in grades 5 to 8, another all the music, and so on. In each such case the remainder of the teacher's time is devoted to the regular work of her grade room.

Again, during the first four grades the handwork is the same for boys and girls. With the beginning of departmental teaching in grade five, it is possible to introduce a gradual differentiation in the work. It is inadvisable to make this differentiation abrupt or exclusive. While, in general, the interests of girls will tend in the direction of sewing, cooking, and homemaking, and the interests of boys toward shopwork and drafting, both sexes should have the opportunity to participate to some degree in both main lines of activity.

VARIETY AND FLEXIBILITY TO BE SOUGHT.

The most serious criticisms that have been directed against current practice in manual training in these grades are that the work tends to become too formal and that the range of activities covered is too narrowly restricted. The practical difficulties involved in administering a shop under school conditions have frequently led to an objectionable formality in instruction and rigidity in method of procedure, and too often the shop instruction has been limited to a course in woodworking.

With respect to the first criticism, it must be evident that manual training loses much of its educational value when it is reduced to a routine in which the instructor does most of the thinking and planning, while the activities of the pupils consist chiefly in following detailed directions. With respect to the second criticism, it is to be said that, if time permitted, manual training could be made much more interesting and profitable by adding to the woodwork a variety of processes selected from a number of other fields, such as printing and bookbinding, simple metal work, electricity, cement, and concrete.

The service rendered to children by the manual arts should not be limited to its contribution to general education, even in the elementary school, though this may properly be the primary motive. So long as children are permitted to leave school at 14 years, or thereabouts, the school must offer in its curriculum some rational preparation for the life struggle which the children are to enter. The nature of this struggle, in our complex social and economic life, calls for something more than ability to read, write, and figure.

Beginning at the latest with the seventh year of school, therefore, and continuing through the high school, the prevocational aim for most children, and the vocational aim for some children, should receive definite recognition in the public schools. While the influence of these aims should not be limited to the work in the manual arts, it is here that the most favorable conditions will be found for its expression and development.

By "prevocational aim" is understood the attempt to assist boys and girls to study their own capacities and the possibilities of their environment, to "find themselves," and to make an intelligent choice at the right time of a future career based on some adequate understanding of the considerations instead of drifting helplessly into whatever chance and ignorance may offer.

The "vocational aim" will be served by any course or line of activity which may be carried on in the school, or which may be encouraged elsewhere under the supervision of the school, that assists boys and girls to make some progress toward preparation for an occupation that is definitely looked forward to.

In the junior high-school plan of organization, the seventh and eighth years constitute the period in which the prevocational work receives the greatest emphasis, while for most children specialization does not begin before the ninth year. It is a great error to suppose that these opportunities are offered in the school for the purpose of encouraging boys and girls to leave school early because they have received some preliminary training for jobs of various kinds. On the contrary, the primary purpose back of all this work should be to convince boys and girls by the very practical nature of the work that it is worth while to remain in school, and thus to keep them under the influence and guidance of the school as long as possible.

COLORED SCHOOLS.

The special problems of the colored schools are discussed elsewhere in this report. It is sufficient here to observe that what is said with reference to handwork for white children applies with equal force to the schools for colored children. An adequate program of handwork should be worked out in the colored schools by a capable staff, assigned to the task of making a careful study of the actual conditions and requirements. The work should be placed on an efficient basis and generously supported.

ORGANIZATION.

As indicated elsewhere, the survey commission recommends the appointment of a capable man to serve as director of manual training and vocational work for boys and a capable woman as director of home economics and vocational classes for girls. Both should be responsible directly to the superintendent of schools.

The director of boys' work should have charge of all manual training and vocational classes from the first grade through the high school and including the special vocational school. He should personally direct the details of the work in grades 5 to 12. There should be an assistant director in charge of the work in the colored schools, and an assistant director, preferably a woman, to whom should be assigned the task of introducing and directing the handwork in grades 1 to 4.

The duties of the director should be to organize the department; to supervise and direct the work of the instruction in handwork, and in shopwork, drafting, and other vocational courses; to secure coordination of the work of the various courses and of similar work in different schools; to arrange regular conferences of the special teachers for discussion of the problems of the department; to organize the staff into a group for professional reading and study, and to make necessary arrangements for equipment and supplies. He should be a man worthy of a salary at least equal to that of the highest-paid school principal.

The assistant director in charge of the work in colored schools should be responsible to the director and should perform such duties as may be assigned when a plan of organization has been agreed upon by the superintendent of schools. He should give not more than half time to teaching classes of children and should receive a salary at least equal to that of the highest-paid elementary school principal.

The duties of the assistant director in charge of elementary handwork should be to confer with the regular teachers in grades 1 to 4, assisting them to introduce such types of handwork as they are now prepared to handle, and to meet the teachers in small groups for the purposes of instructing them in the technic of such additional lines of work as it may be decided to introduce. She should also prepare outlines of courses, detailed directions for procedure, and arrange for necessary equipment and supplies. She should give not more than half time to teaching and should receive a salary at least equal to that of the highest-paid elementary school principal.

ELEMENTARY HANDWORK.

The director and his staff should undertake as one of their earliest tasks the formation of a well-organized scheme of handwork for grades 1 to 4, which should be articulated as closely as possible with the prevocational and vocational work of the later years. In the beginning the lines of work for the first four grades should be selected to meet the capacities of the various teachers available to handle them, but notice should be given that after a reasonable time (say, Sept. 1, 1923) grade teachers will be expected to teach the handwork outlined in the course of study. Beginning with grade 5, a departmentalized system may be developed, by which one teacher in a building will be responsible for the handwork for the boys, another for the handwork for girls, another music, and so on.

During the introductory period from 30 to 60 minutes per week should be allowed for handwork, but the school program and course of study should be readjusted gradually to a more liberal allowance. Ultimately it will be found practicable to set aside for handwork not less than one-tenth to one-eighth of the present school time in grades 1 to 6; that is, from 2 to 3 hours per week, divided up into from 3 to 5 periods, according to program conditions.

In grades 7 and 8 (and 9 in junior high schools) the manual arts should receive not less than one-fifth to one-fourth of the present school time, or 5 to 7 hours weekly. The program should be flexible enough to provide an even larger proportion of time for these purposes, up to one-third or one-half for groups of selected pupils under special conditions on an elective basis.

RELATION TO OTHER STUDIES.

A place for handwork in the schools should be found by a reorganization of the course of study and modified methods of instruction, and not by the mere mechanical process of displacing something old in order to add something new. It must suffice here to suggest very briefly those features of reorganization and method which would affect the handwork:

(*a*) To the extent that handwork is used to illustrate and reinforce the instruction in other subjects (as language, arithmetic, geography, history), it becomes a method of teaching these subjects and does not require a special allotment of time of its own. By thus making the instruction in these subjects more vital and concrete, and hence more effective, the same ground can be covered in less time.

(*b*) The elimination from the course of study of nonessential material (as certain obsolete topics in artithmetic) makes for a more effective instruction and for economy of time. (*c*) More time for handwork may be had by a redistribution of subjects in the various years of the school. For example, it may be found that a subject is spread over too many years of the course, and that desired results may be obtained with less expenditure of time for formal instruction. (*d*) The introduction of handwork and other features of the modern school, such as physical exercises, games, dramatizations, music, serves to make the school work more interesting and more enjoyable, so that, even if the aggregate time actually devoted to instruction is not materially increased, more can be accomplished with less fatigue and with greater satisfaction to both teachers and pupils. (*e*) The current tendency in the direction of a longer school year and a longer school day offers at least a partial solution of the problem of providing for new activities. (*f*) The segregation of certain types of special pupils in special classes makes for more effective and more economical use of time. These pupils include: (1) Those who are making more rapid progress through the grades than the normal rate of one grade per year; (2) those who are slower and retarded; and (3) those who are below normal, physically or mentally.

SCOPE OF WORK.

The object in view should be a well-organized and articulated scheme of handwork, incorporating the best features applicable to local conditions that have been developed by progressive cities, with lines of work of sufficient variety and scope to meet the approval of modern educational thought and adapted to the capacities and needs of children at successive stages of growth.

The work should connect intimately and efficiently with the activities of the kindergarten and the training of the home, on the one side, and with the practical demands and actual conditions of the life careers into which the young people go when they leave school, on the other.

The work in the first four years should be adapted as closely as possible to the requirements of the reorganized course of study and should involve the manipulation of materials and processes in paper and cardboard, textiles, basketry, weaving, and drawing. Beginning in the fifth year the lines of work may well diverge with the varying interests of boys and girls, and for the boys should include opportunities for work in thin wood and elementary processes in bookbinding, printing, clay, cement, plaster, and such other groups as further study of conditions may indicate.

In the seventh and eighth years the boys should carry still further the problems in printing and bookbinding, and to these should be added suitable work in copper, brass, iron, leather, cement, and concrete, electricity, benchwork in wood, and mechanical drawing. The woodwork may well include some simple framing and carpentry. All the shopwork should be made as practical as possible.

Effort should be made also to study and provide for the needs of special groups of children, such as those who are for any reason retarded in physical or intellectual development or in their progress through the grades.

With the amount of time suggested, it will be possible to devote sufficient attention to mechanical drawing in the elementary schools to enable all boys to make and read simple working drawings, and to provide for a few an introduction to the elements of architectural or machine drafting. All the mechanical drawing should be practical in character and in accordance with approved standards of draftsmanship. This work should be under the supervision of the director of manual training and taught by shop teachers, or by teachers who are familiar with shop conditions and who keep in close contact with the school shopwork.

EQUIPMENT.

As rapidly as plans can be developed, and teachers made available, an industrial shop for boys should be opened in every elementary school (and junior high school), white and colored. The equipment and arrangement of the shops should be somewhat different from those now in use. The type of shop that has existed in the past developed under the influence of traditional school ideals of class units and rigid programs, and although there has been much more freedom and flexibility in the shop than in the usual classroom, there is need of still further flexibility.

The new type of shop is conceived as a laboratory in which real problems may be considered and solved by the pupils. Such problems may frequently involve other processes than those found in woodworking, and it is desirable to provide equipment in sufficient variety to prevent the work from being confined in too narrow lines. The transformation in shops and equipment should be brought about gradually to enable teachers to prepare themselves for the new conditions. Nothing is gained by adding tools or materials which teachers are not qualified to use advantageously and efficiently.

It is not necessary that all of the desired lines of work be carried on in any one shop, though a considerable variety of work may be thus provided. The object in view is to provide pupils with as wide a range as practicable of useful experiences, and this may be accomplished in various ways.

In many cities where it is not practicable to equip every building with a shop, it is customary to provide this feature at certain "centers," to which the boys and girls go from near-by schools. By this arrangement the expense of providing shops, which are used only part-time, in each school is avoided. Ultimately, no doubt, each school will have its own shop, but for the time being enough centers to accommodate the fifth, sixth, seventh, and eighth grades from all of the schools should suffice.

These shops may be located in unoccupied rooms in present buildings, or in separate new buildings erected for this special use. They may even be ground-floor or basement rooms if they are adequately lighted and ventilated and provided with dry wood floors.

The average classroom in modern buildings, however, contains only about 720 square feet, while an elementary school shop should contain not less than 900 square feet, exclusive of lumber storage, toolroom, and lockers for unfinished work. Too frequently this work has been started under discouraging conditions in dark, damp, and poorly ventilated rooms in a basement; sometimes a coal cellar has been emptied for such purposes, and very little done to make it acceptable as a shop. Local conditions must, of course, govern the action taken, but we can not emphasize too strongly the necessity for providing good air and light in the school shops.

Next in importance to the shop room is an adequate and well-selected equipment. At one time this meant a full set of tools for each boy who reported to the shop, but modern practice is much more economical. Each boy should have a work bench and vise, and each bench should be equipped with a few tools, such as a plane, chisel, ruler, brush, and possibly a back saw. Beyond this a smaller number of each kind of tool is required, since they may be used in common by all of the boys. The number of different tools need not be great, but the quality should be the best. It is well to standardize in the beginning as to the brand of tools, in order to facilitate repairs and replacements later on. Most elementary school shops are equipped with small benches, which are arranged in rows like the desks in a schoolroom. There is, however, a growing tendency to use long benches, placed against the walls and through the center of the room, thus providing a greater amount of open floor space for the assembling of projects. Each shop should contain a sink and water connections and, where available, a gas hot plate.

COURSE OF STUDY.

Emphasis should be placed on the importance of handwork in all of the grades, beginning with the first and extending through the fourth, a field which has not been adequately developed. During this period the work may well be carried on in the regular classroom and be undertaken by both boys and girls. Heretofore, even in school systems recognizing the value of such work, paper and cardboard have been almost the only materials used for motivating the regular course of study. In some cases an understanding of their appropriateness required a decided stretch of the imagination, even for children. The great value of hand work in these grades is not so much the manipulative processes themselves as the motivation which it provides for lessons in geography, language, arithmetic, and other academic subjects. As an example of such work, the following description is offered of a project which was successfully carried through with a third grade, which was reading at the time the story of Robinson Crusoe.

A plain table was placed in the classroom and a few tools, such as a back saw, coping saw, hammer, and pliers were provided, and a wooden saw box which enabled the boys and girls to work with a considerable degree of accuracy. Now, with various sized strips of wood of indefinite length, secured from the shop for older boys, with glue, brads, and various other materials readily supplied by the children, a wonderful house and stockade, as well as the furniture used by Robinson Crusoe, were constructed to the great delight of the children. It is not necessary that the teacher be skilled in the use of tools to undertake such work, nor is it necessary that each child take part in the actual construction, although each one should make some contribution. Similar problems have been worked out in connection with the sand table. These problems should be suggested by the work at hand, and should be undertaken without particular emphasis on proper tool practice or sequential tool processes.

By the time boys have reached the fifth grade they are old enough and generally large enough to go to the shop at least one hour per week, where better facilities for work may be provided. At this age boys are still interested in toys and playthings, and these may well be made the basis of the year's work. The use of coping saws in cutting various figures out of thin wood is a rich field, especially if the work centers around some seasonal, civic, or historical subject, such as gifts for Christmas, a circus menagerie, or the animals at the zoo, or the Eskimos with their dogs and sleds. The work in this grade should be confined to the use of the simplest tools, although by means of jigs and special devices, eliminating the necessity for fine manipulative skill, the scope of the work may be greatly enlarged. Neatness and accuracy should always be demanded, but the chief problem is to direct their interest toward those things which boys of their development and experience can do well rather than permit them to undertake those things which are obviously beyond their ability.

In the sixth grade the more general use of tools and the making of articles requiring some degree of skill is advisable, but still the desire to create should not be curbed by demands for technic. Again, the use of mechanical aids, such as planing jigs and saw boxes, are easily justified when the larger problems of utility, service, construction, and design are kept before the pupils. A boy in the sixth grade should learn to use the plane, saw, chisel, knife, screw driver, etc., and he should not be permitted to use them improperly, but such knowledge or skill is acquired slowly and generally through a realization of its necessity in order to accomplish satisfactory results rather than through continued practice on abstract pieces or models which lose their value in the estimation of the boys as soon as their construction has been accomplished. They should be required to plan their work and also learn to work from dimensioned drawings, but need not be required to make such drawings.

In the seventh grade the importance of technic should be brought sharply to the attention of the boys, and a study of tool processes may well be undertaken. Problems in soft wood requiring simple but accurate joinery are appropriate. A study of mechanical drawing may well begin at this point and one-fourth of the time allotted to shopwork seems to be about the correct proportion. Complete and direct correlation with the construction problems is no longer considered essential, but the work in drawing should not consist of sheets of abstract lines and geometrical problems, but begin at once on drawing of real objects.

The work of the eighth grade should be a continuation of the work of the seventh grade with the introduction of more difficult problems in both construction and drawing as well as practice in the staining and finishing of wood.

The suggestions made herein contemplate emphasis on problems which require constructive thought on the part of the pupil, stimulate the development of ingenuity and initiative in dealing with new situations, insure the formation of correct habits of technic and craftsmanship, and occasionally demand cooperative effort in which the students work together in groups on a single project. Too often school training has tended to repress independence and resourcefulness in the child, and to discourage the cooperative spirit, through the teacher's preliminary analysis of processes, and through refinement in details of directions for procedure. These faults in method have often resulted from overburdening the teacher with too many pupils, and from the utter insufficiency of the time allowed.

To provide problems to be solved by the pupils instead of by the teacher is much more difficult than to outline courses of models or exercises. Nevertheless, it is an ideal toward which public school work in the manual arts is tending, and as an ideal it has the advantage of representing a type of work that produces the maximum of interest and profit for both teacher and pupil.

At the same time, supervisor and instructor must not be permitted to lose sight of the value to both teacher and pupil of careful analysis of every individual problem, and of definite and orderly progression in the year's work. Too much enthusiasm for the freedom and fascination of the practical-problem method of work, unrestrained by insistence upon thoughtful analysis and systematic procedure, can not be expected to produce results of educational value commensurate with the amount of energy displayed. The best teachers will be found to depend much on the analysis of each problem into its successive steps, and a study of the history of manual training will show that the content value, or educational value, comes only after such analysis has been made, or in the process of making it. For this reason, successful teachers endeavor to have the work of analyzing the problem done by the pupil, so far as possible, though they recognize that in the earlier stages it must necessarily be done by the teacher.

The shop courses in Central High School should be continued, and modified in such way as to permit students who do not expect to enter college to elect a larger proportion of shopwork. The content of the shopwork courses offered, and methods of instruction, should be based on the opportunities open to boys and young men in local industries.

TIME ALLOTMENT.

The foregoing recommendations are based on a program providing one hour per week for fifth and sixth grades and one and one-half hours per week for seventh and eighth grades. It should be considered as a minimum both as to time per week and minutes per recitation period. It seems unwise in a system where manual training has had no place to recommend a larger portion of the school time in the beginning. It must be recognized, however, that the maximum educational value of such work can not in any sense be realized in so short a period, and therefore in those schools from which a considerable number of boys will probably go direct into industry, this time should be doubled or trebled. To increase the time without broadening the scope of the work could not be justified; so that there must be a new conception of its purpose.

The old idea of manual training was based on the coordination of the hand and mind without particular reference to the kind of work to be undertaken. As wood was the most available, easiest worked, and cheapest medium of expression, it was naturally chosen and the development of a sequential course was accompanied by an analysis of tool processes which undoubtedly laid the foundation for the modern job analysis and efficiency systems. There is, however, a growing feeling among educators that work with tools and materials is a much broader informational subject and that it offers opportunity to better acquaint boys with the great industrial world which confronts them at every turn and in which a large proportion of them are destined to play more or less important parts.

NATURE OF SHOPWORK.

In previous paragraphs, in conformity with common practice, a course of woodwork was recommended as a nucleus for the manual training work, and this seems especially appropriate in Memphis, the greatest hardwood lumber center in the world. In accordance with present tendencies, however, deviations from such a course are not only advisable but necessary if the larger values are to be realized.

Taking advantage of the boy's natural desire to work with tools we should direct their energies first toward the making of toys and playthings, later articles of more permanent value and utility; second, we should seek in their homes, in the school, and in the community problems of interest and value which may be worked out either individually or by groups of boys; third, we should go to the industries for problems and methods which provide a source of valuable information and practice.

In the first group, in addition to kites and toys, wagons and bird houses, tables and work benches, we might include many of the activities required by the Boy Scout organization, which would thus be brought into closer contact with the public schools.

In the second group we find innumerable small jobs which can and ought to be done by boys. Much of the resourcefulness attributed to boys raised on a farm is due to the great variety of demands which are made upon them. Modern homes of the most modest type provide many opportunities for hand work which should be encouraged and directed by the teacher of manual training, among such problems being the soldering of leaking utensils, replacing of broken window glass, repairs to water faucets, mending screen doors, replacing broken sash cords, and sharpening hatchets, knives, and scissors.

In the third group we should have work based largely on the practices of modern industry. Such work calls for some machinery, and where such is introduced, its use should follow quite closely the practices in commercial shops. Whether the classes are organized to study particular trades or to center their activities on some project involving several trades, care should be exercised lest careless methods be employed and poor and slovenly work result. Equipment for the school plant when a number of similar articles are needed falls readily into this group. It may well lead to a division of labor and repetition of processes to the extent of acquiring considerable skill, but contrary to the tendency in industry, specialization should not be carried so far as to lose its educational value; instead of training boys for one job only, they should be rotated from job to job in order that they may gain an all-round training. There is danger in such work of merely producing a quantity of marketable material and neglecting the teaching processes, but properly handled it offers superior advantages for real constructive teaching.

LIBRARY.

Steps should be taken as early as practicable to provide, for the use of both teachers and pupils, a carefully selected library of the best current literature in the fields of the manual arts, vocational guidance, and vocational education. Some of the important items should be duplicated, and supplied to all shops or classrooms where their use is appropriate. In addition there should be a small collection in each school building, and a more comprehensive reference library located, perhaps, at the Vocational High School. An initial appropriation of $500 and an annual appropriation of $100 are suggested.

2. VOCATIONAL EDUCATION.

Memphis has made an excellent start on a plan for vocational education in the reorganized Crockett Vocational School. On July 10, 1911, the board of education authorized the organization of the Memphis Vocational Grammar and High School, and the school was opened in the old high-school building on September 18, 1911.

From an enrollment in 1911–12 of 188, the school grew to 469 in 1915–16. Although an effort appears to have been made by those in charge to develop a vocational school of high grade, lack of adequate financial support, and the influence of the traditional school curriculum and ideals combined to prevent the full realization of this aim.

In the fall of 1917 the State board of education authorized the establishment of a number of unit trade courses under the provision of the Federal Vocational Education act. The name was changed to the Crockett Vocational School.

In 1918–19 the school offered five unit trade courses, two years in length, under the terms of the Smith-Hughes law, as follows: Architecture, carpentry, commercial design, home economics, printing. In these courses 99 students were enrolled in the second half year, as shown in the table hereafter.

To be eligible for admission to these courses, pupils are expected to have completed the equivalent of the work of the sixth grade of the elementary school, to be no less than 14 years of age, and to satisfy the instructor of their ability to profit by the work of the course chosen. The requirements of the Smith–Hughes law are followed with respect to hours and division of time, subjects of study, qualifications of instructors, etc.

These requirements provide for a 6-hour day, 5 days per week; 50 per cent of the time, or 15 hours per week, is devoted to practical shopwork in each course; of the remainder, 9 to 10 hours per week are devoted to the mathematics, science, and drawing related to the trade in question, and 5 to 6 hours per week are assigned to nonvocational subjects.

The school also offers a four-year "vocational course," based on graduation from the sixth grade, thus paralleling the seventh and eighth years of the elementary school and the first two years of the high school. The number of students enrolled in this course in the second term, 1918–19, was 515, of whom 7 were taking a fifth year's work.

The vocational course differs from the work of the other schools in the substitution of a certain amount of shopwork and drawing for portions of the regular course of study. Before this school can accomplish the objects for which it was established, however, it must be relieved of the necessity of attempting to offer vocational courses based on the ascertained needs of young persons and at the same time to meet traditional high-school entrance requirements.

The Crockett Vocational School also offers a number of evening courses during the winter. None of these was in session at the time of the survey, and limitations of time prevented a thorough study of this problem.

ENROLLMENT.

According to the report prepared by the principal for the survey commission, the enrollment figures for the day classes of the Crockett Vocational School for the second term, 1918–19, are as follows:

	Boys.	Girls.	Total.		Boys.	Girls.	Total.
Regular day classes:				Smith-Hughes trade classes:			
Grade 7-1	44	47	91	Architecture	39	0	39
7-2	34	39	73	Carpentry	18	0	18
8-1	46	47	93	Commercial design	7	1	8
8-2	22	24	46	Home economics	0	24	24
9-1	32	73	105	Printing	10	0	10
9-2	10	29	39				
10-1	10	34	44	Total	74	25	99
10-2	8	9	17				
11-1	0	7	7	Summary:			
				Regular day classes	206	309	614
Total	206	309	515	Trade classes	74	25	99
				Total	280	334	614

PROPOSED PROGRAM FOR THE VOCATIONAL HIGH SCHOOL.

A comprehensive program of vocational education should be formulated for the Memphis school system, centering in the Crockett

Vocational School. This program should provide for four main lines of effort:

(1) Prevocational classes for pupils who have completed the equivalent of six years work in the elementary school, or who, without completing the sixth grade work, have attained the age and maturity which enable them to profit by the special work offered. The course of study should include a variety of practical work in shopwork and drawing, and should aim definitely to assist boys and girls to study their own capacities and talents and the opportunities open to them, and on the basis of such study and the experience afforded in the school to make intelligent choices of their future vocation.

(2) Unit trade classes, carrying out the provisions of the Smith-Hughes law. These are designated primarily for boys and girls 14 years of age or over, who have definitely selected the trades for which they wish to prepare, and who are able to devote two years to such preparation.

(3) Part-time classes, designed especially for young persons who are employed, and who can give only a limited amount of time to further schooling. A considerable range of opportunities should be provided, including a continuation of general education as well as special technical and vocational subjects. Classes should be of two main divisions: (*a*) Day continuation classes, for employed persons who attend school one or more periods for a total of four to eight hours per week; (*b*) cooperative day classes, for employed persons working in pairs, each individual working and attending school in alternate periods.

(4) Evening classes, for employed persons 18 years of age and over.

PREVOCATIONAL CLASSES.

The largest contribution which the Crockett Vocational School can make to the education of the youth of Memphis is through the day classes designed to serve a prevocational purpose.

The necessity of providing vocational guidance and direction for children who are likely to leave school before the completion of the high-school course, and thus to face at a very early age the demands of industrial and commercial life, is coming to be generally recognized. For many years it has been evident that the public school offers more definite and more effective service to the boy or girl who can use this schooling as a stepping-stone to further training in college or university than it does to the one who must make the best of it as preparation for a life career without the higher aid. There are many more boys and girls of high-school age who are not in school than there are in school, and the first and most obvious task of a program of vocational education is to study and meet the needs of these thousands of children who are not satisfied with the instruction which the schools now offer.

It is not possible to determine which children will continue through high school, for, when questioned, many children and their parents will make declaration of intentions which are subsequently not realized. An effective plan of prevocational classes will assist many of those whose plans for the future are unsettled to see the advantages of further schooling, and especially schooling which aims at preparation for definite life careers.

These classes are designed primarily for children of about 12 to 16 years of age, and should have a threefold aim: (1) To promote a better understanding by each individual of his own abilities and qualifications; (2) to promote a better understanding of the meaning of a life career, and of the available opportunities and means of earning a living; and (3) to encourage the best possible use of individual abilities and available opportunities. When work with these objects in view is undertaken in a more or less formal way as a classroom study and through individual conferences between teacher and pupil, with or without visits to commercial and industrial plants and individual studies and researches, it is referred to as "vocational guidance."

When the studies in vocations are developed to the extent of providing special equipment, so that the student may participate in practical shop and laboratory activities on real projects selected from a number of typical or fundamental vocations, with sufficient time assigned to the practical work, it is believed that the pupil may be able to form for himself an intelligent relative estimate of his fitness for the various types of vocations in which he thus engages, as the basis for the choice of a life career. To such special school or class has been given the title of "prevocational school" or "prevocational class."

The prefix "pre-" implies a special kind of training that precedes vocational training, and hence is not itself vocational. It is designed for the young person who has not yet made a choice of vocation, or a choice among several opportunities for vocational education that are offered, and who is presumed to receive therefrom definite assistance in the making of such choices.

The latter part of the term, "vocational," implies a considerable variety of activities and a broad outlook into possible future careers. There should be included something corresponding to the introductory phases of each of the main subjects of vocational education (professional, agricultural, commercial, industrial, and homemaking), the opportunity to enter upon a definite vocational course in some one of which presumably would be open as soon as a choice can be made.

BASIS OF SELECTION.

The activities to be emphasized in the prevocational classes should be broadly typical of occupations which are of greatest significance in Memphis and the surrounding territory. To afford a basis in fact, for this selection, a preliminary study was made of commercial, industrial, and social conditions in Memphis, discussed in Section I of this report. From observations made in the limited time available, it is suggested that the following lines of prevocational work should be introduced: For boys—agriculture, printing, sheet metal, carpentry, cabinetmaking, automobile work, electrical work, mechanical and architectual drafting, salesmanship, business organization and methods; for girls—commercial subjects, salesmanship, and business methods; cooking, sewing, and homemaking.

In the following pages is presented an outline of a plan for prevocational classes for boys. It is understood that the complete plan will make corresponding and adequate provision for girls.

ESSENTIAL FEATURES.

Experience in other school systems has shown that certain features are essential to success in the conduct of prevocational classes:

1. At least one-half of the time in school should be devoted to the various lines of practical activity. Sufficient time must be allowed to accomplish definite results in each occupational field. A six-hour school day, with two sessions of three hours each, has found favor in a number of places.

2. One-half the time should be given to related work in language, mathematics, elementary science, industrial geography, industrial history, and, in general, to preparation for intelligent understanding of and active participation in civic and social responsibilities.

3. The work should be offered, in the beginning at least, on an elective basis, but all boys and girls who are likely to profit by the instruction should be encouraged to take it. This department should be maintained on the same basis of dignified and serious endeavor as any other, and should not be considered as a special provision for incorrigibles or for pupils physically or mentally backward.

4. As already indicated, there must be variety in the practical activities undertaken in order to give insight into a number of typical vocational fields.

5. Teachers should be chosen who have had sufficient experience in the occupations represented in the course of study to relate the instruction to actual conditions in the industrial and commercial world. The closest relationship should be maintained also between the shopwork and the related work. The success of prevocational work is dependent in large degree upon the teacher's power to hold and interest the pupils and upon his qualities of adaptability, originality, initiative, and keen interest in the successful handling of the problem.

6. There should not be less than one year, and preferably two years (the seventh and eighth), during which the pupil engages in several typical lines

of shopwork or laboratory work successively, followed by a period of one year or more in which he may specialize in a chosen line.

7. The pupils should be grouped in sections of not to exceed 15 to 18 each in order to permit a degree of individual instruction.

UNIT TRADE CLASSES.

The special trade classes organized under the provisions of the Smith-Hughes vocational education law should be continued. Other courses should be added from time to time in response to evident demand. So far as members of the survey commission could determine, however, these day trade courses are not likely to be the most important feature of the program for vocational education in Memphis.

Since the nature of the courses and the conditions under which they are given are clearly defined in the publications of the Federal Board for Vocational Education, it is unnecessary to discuss them in detail in this report.

PART-TIME CLASSES.

The special classes here referred to are intended primarily to appeal to boys and girls who have left school to go to work, and should be made a most important feature of the plan for vocational education in Memphis.

(*a*) Day continuation classes of many kinds should be organized to meet the needs of boys and girls who are employed and who can not be induced to reenter school on full time. Short courses, a few weeks or months in length, should deal with the specific problems of certain selected occupations. Others should deal with selected topics from the field of general education. Still others should deal with such special topics as health, recreation, civics, and citizenship.

The class sessions should be from two to four hours in length, and there should be one or two sessions weekly, scheduled during regular working hours. The physical strain involved in regular attendance upon evening classes following daily work is a very serious handicap on boys and girls not yet fully developed. In general, it is believed that youth under 18 years of age should not be subjected to this strain and that admission to evening classes should be limited to those who are 18 years of age or older.

In a number of States legislation has been enacted requiring employed workers of certain groups under 18 years of age to attend continuation classes for a prescribed number of hours on the employers' time. Among these States are Wisconsin, Pennsylvania, and New York. It is recommended that similar legislation be sought in Tennessee, and that in the meantime Memphis address itself to the solution of this problem for her own children without delay.

(*b*) Cooperative part-time classes should be organized in those industries and commercial occupations providing the proper conditions.

The essential features of the cooperative class include:

(1) A definite arrangement by and between the school and one or more industrial plants, in accordance with which the theoretical instruction is given by the school and the practical experience is given by the industries, and both are coordinated in a systematic and progressive educational program.

(2) Willingness on the part of the industrial plant to make such adjustments in equipment and processes and methods as are necessary for promotion of the educational aims.

(3) Willingness on the part of the school to eliminate nonessentials and to base theoretical instruction on actual practice and sufficient skill in organization to administer the plan successfully.

(4) Careful selection of employees, instructors, and student workers who are capable of being inspired with a vision of the responsibilities as well as the possibilities of the plan.

(5) Administration of the devices of alternating periods in such a way as to secure continuous and progressive action on the process or job in the factory as well as in the work of the student and the instructor in the school.

In brief, the plan provides that the students in any class shall be divided into two groups, one group being in school while the other is at work. At the end of each period (one week or two weeks) the groups exchange places and thus alternate between school attendance and wage-earning employment. The student-workers are arranged in pairs, so that the work in the place of employment is kept going continuously.

In considering the advantages of the cooperative plan in the Crockett Vocational School it is necessary to recognize that the first appeal is made to boys and girls not now in school—to those who, because of economic necessity or indifference, have left school to go to work or to loaf. In the next place, a strong appeal is made to many boys and girls who are in school at the cost of much real sacrifice and self-denial. If some way could be found to meet a part of the cost, they can and will remain in school.

Again, some lessons can be learned only through practical experience in the ways of the world. Some of these include the proper relations between the material and spiritual phases of life, the meaning and value of money, the meaning of work and wages and the relation between them and the importance of life motives. The learning of these lessons is of as much consequence to one individual as to another, irrespective of economic, intellectual, or social status.

The cooperative plan is a contribution to the solution of some of the problems involved, and hence its advantages should be placed within the reach of all youth.

With these conditions in mind, the special advantages of the cooperative plan may be summarized as follows:

(1) The safeguards thrown about the young people in their places of employment through the supervision exercised by the school and the cooperation of employers show an almost unbelievable improvement over the conditions hitherto characterizing the employment of minors in many places.

(2) The cooperative plan makes it possible for some boys and girls to continue in school, because of wages earned on half time. Prolonging the period of active connection with the school and of contact with sympathetic teachers and advisers confers an incalculable benefit on growing boys and girls and should lead to a permanent impetus to better things.

(3) The plan would doubtless induce some to remain in school, because the school work is thus made more interesting and the student can see a more direct relation between schooling and the promotion of his own interests.

(4) The experiences involved promote a more earnest and thoughtful attitude toward work and the responsibilities of life.

(5) The plan discourages idleness and unwholesome use of time, since the longer school day and year are fully occupied with interesting activities.

(6) The opportunity to engage in gainful employment of half time, under suitable auspices, has a definite prevocational value, assisting young persons to discover their tastes and probable aptitudes.

(7) The successful operation of a cooperative school or class affords a convincing demonstration that a reasonable amount of work, under proper conditions, can be made to contribute definitely to the development of youth instead of being, as frequently heretofore, a demoralizing, disheartening, and stunting influence.

(8) The plan gives the student, at the very least, a foothold in some industry or occupation, so that he does not feel lost when the time comes to leave school and take up the responsibilities of self-support.

(9) It should be emphasized that this plan does not neglect the need for general education, but insures to each individual an amount of cultural and liberalizing education sufficient to serve as a foundation for further study, if he finds it possible to continue his education; he certainly gets more of the cultural side of education than he would if he had left school entirely to go to work.

Inquiries made by the survey commission proceeded far enough to indicate that a proposal to organize cooperative classes would be favorably received in several industries in Memphis. Conditions are especially propitious in the printing industry, and one or more cooperative classes can be organized with a minimum of effort and expense.

EVENING CLASSES.

A considerable variety of evening classes for employed workers 18 years of age and over should be offered not only in the Crockett Vocational School but in other schools as well in different sections of the city. The importance of evening classes in Memphis has been recognized for some time. Increased facilities and a more aggressive policy, however, are necessary in order to meet the needs of the situation.

VOCATIONAL SCHOOL FOR NEGROES.

The plan for vocational education in the Memphis schools would not be complete until adequate provision is made for a vocational school for Negroes. This school should be well equipped and adequately supported and should include the following features:

(*a*) Prevocational classes for those who have completed the work of the sixth grade or who have reached the age of 12 years.

(*b*) Day trade classes meeting the requirements of the Smith-Hughes vocational education law.

(*c*) Part-time classes.

(*d*) Evening industrial and general continuation classes.

3. HOME ECONOMICS.

The teaching of home economics in the public schools has long since ceased to be an experiment. To-day courses that cover the full round of duties in the home are being offered. These are being presented according to well-worked out plans that take into consideration the age and experience of the pupils that they may become adjusted to their daily life in the home and acquire a knowledge of their future responsibilities and of the means of meeting them. Changing industrial and social conditions have been making such education more and more necessary. To-day the majority of home makers need to have not only administrative ability in household management but also skill in the performance of household tasks, because domestic help has grown more scarce through competition with the industries in which higher pay and shorter hours have been offered. This has been true particularly in the South, where the homes have been deprived of the abundance of household help to which they have been accustomed to a marked degree, and where the help that can be secured has grown less efficient and responsible. Home makers are coming to find that personal knowledge of the household arts adds much to their comfort and independence. On the other hand, educators realize that improved home conditions for all classes of people will be a vital factor in national progress, and that the best means of reaching the homes is through the children while in school. Thus a great responsibility rests upon the schools, a responsibility that they are only gradually learning to meet.

Some phases of home economics education have been presented in the Memphis public schools for the past 10 years. Courses in cooking and sewing have been offered as elective to all the girls in the Vocational High School throughout that time. A special home economics curriculum is offered at Central High School, and courses in that curriculum are offered as selective to girls specializing in other lines. At one time courses in sewing were given in the seventh and eighth grades throughout the city, but these courses were taught by untrained teachers and for some reason were not continued. This year courses in both cooking and sewing have been offered to the girls of the seventh and eighth grades of the Rozelle elementary school. In the colored schools courses are given to all the girls above the sixth grade. The equipment installed at the Kortrecht (Colored) High School a good many years ago has made it possible to require the work of the girls of the seventh, eighth, ninth, tenth, and eleventh grades attending that school and equipment more recently installed in the Grant School, where all the other colored children of the seventh and eighth grades of the city are brought together, has been the occasion for extending that requirement to all the girls of those grades. All of these courses have been independently developed, and no scheme for home economics education has yet been worked out in the city system.

THE CENTRAL HIGH SCHOOL.

In the special home economics curriculum adopted in the Central High School in 1917, cooking and sewing (and millinery) are alternated as a major throughout the four years. They are also offered as electives in the elective course. A good equipment has been provided for the courses, and large numbers of girls elect the full curriculum, while the separate courses are probably as popular as the busy high-school program makes possible. Though a well-rounded course in home economics has not been worked out, conscientious teachers have done excellent work, and good results have been obtained. This is particularly true in the sewing courses, in which the girls have received such thorough training from the simple garment making to the more advanced courses in dressmaking and millinery that they have achieved a power that renders them capable of independent work in this household art. Less opportunity for acquisition of power is offered in the cooking courses, and changes in the teaching staff have interferred with the permanency of courses that have been worked out. The courses as they now exist seem to lack progressive development and to put greater emphasis on the practical phases of home economics than on the underlying scientific and economic principles. The alternating classes in sewing and cooking (one week sewing, the following week cooking) may be feasible during the first and second year before the problems become such as to require intensive study, but during the last two years it would seem well to have differentiated courses running continuously through a term. The system of giving the courses in sewing and cooking on alternate days or throughout alternate weeks has the additional advantage during the freshman and sophomore years of giving all the girls opportunity of having had some work in each line at whatever period it may be necessary for them to leave school.

The hours of the teachers at Central High School are entirely filled with teaching. They have classes through the six regular recitation periods and an additional lesson after the regular session is over for students who are eager to elect a short course in home economics or for classes in Red Cross work. Those teachers who have two noon periods are appointed to assist in checking sales in the lunch room. Thus every minute of the teacher's time in school is occupied with class or other required duties and no free time is allowed for the equally necessary conferences with individual pupils for marketing, shopping, or other essential preparation for laboratory lessons. The teachers are too crowded in their schedule to give the proper attention to the organization and development of their courses, though they are doing much for the individual pupils.

The method of obtaining supplies for cooking is cumbersome and unsatisfactory and deprives the teacher of the opportunity to give practical lessons in marketing that are so necessary. Orders must be presented to the director of the lunch room and goods delivered from him to the cooking schools. Since orders must be put in several days in advance, and there is no established and regular time of delivery from the lunch room to the cooking school, the element of uncertainty and delay is a serious drawback to the system. Moreover, the limited type of cooking done for the school lunch does not always make it easy to secure the widely varied materials for which the cooking school calls, while the opportunity so dear to the housekeeper of securing supplies of fruits and vegetables when the season is at its prime and there is a sudden fall in prices is denied the cooking teacher.

THE VOCATIONAL HIGH SCHOOL.

The courses in home economics at the Crockett Vocational High School are elective for any of the girls at any period of their course. As the Vocational High School is a junior high school, this means that girls of the seventh, eighth, ninth, and tenth grades may all elect the same courses and report at the same time. This results in the work being quite hopelessly ungraded. The lessons in sewing must be largely individual, while in the lessons in cooking the difference in the maturity of the girls makes it quite impossible to develop the food work adequately. An advance course in cooking, which is carried out in the lunch room, has to be conducted almost without supervision, as the cooking teacher is conducting another class at the same hour. The teacher is seriously overtaxed by this arrangement, for she conscientiously gives as much time as possible to the supervision of the lunch room. However, too much responsibility rests on the untrained workers and they are not deriving from the course the training to which they are entitled.

The introduction of a Smith-Hughes course in home economics at the Vocational High School this past winter has limited the opportunity of students to elect this course, since two of the three teachers are now devoting three-fourths of their time to the Smith-Hughes classes and the third teacher devotes one-half of her time to Smith-Hughes classes. Twenty-five have been enrolled in these classes since the beginning of the term. Each of these teachers has only one class in home economics open to other students. Only 50 girls have been entered in home economics classes this term, as against 125 during the term prior to the introduction of home economics. The majority of the girls in the Vocational High School desire to major in some subjects which will enable them to earn a livelihood immediately upon leaving school; hence they flock into the commercial classes. This makes it impossible for them to elect anything but the brief courses in home economics.

For many years continuation classes in both cooking and sewing have been offered at the Vocational High School. These classes have been held during the latter part of the afternoon or the early evening. At present funds are being secured from the Federal Board for Vocational Education for the maintenance of these classes.

The ungraded character of the work at the Vocational High School is a serious detriment to its development. The teachers are badly crowded for time, particularly the teacher of cooking. While the equipment is fair, it is crowded into rooms that are entirely too small for comfortable accommodation of classes and is far from being all that the equipment in a modern vocational school should be. The space allotted to the lunch room is inadequate, dark, and insanitary, not a fit place in which to ask girls to work several hours a day. It is well to make the lunch room a laboratory for class work in so far as possible, but the work has no educational value unless carefully planned and properly supervised, and this has not been possible under conditions that have existed in the Vocational High School.

The majority of the girls marry within a very few years after leaving school, and even before that time most of them have the responsibility of the choice of food and of clothing for themselves and others, therefore they should all have opportunity for short courses in home making while in the high school.

THE ROZELLE SCHOOL.

The sewing and cooking courses in the Rozelle Elementary School exist independently of the established school system, and represent in a sense an experiment for the grammar grades. The courses are elective to the girls of these grades, 50 per cent of the girls electing the work this first year. No credit is given for the work, and the teacher devotes only a small portion of her time to the subject. Should the lessons be required of all girls in the seventh and eighth grades and regular credit be granted for it, the course would quickly take its place as a regular subject in the curriculum. Good rooms have been provided for the lessons and a minimum equipment has been installed. This will need increasing from time to time as classes increase in size and new classes are added.

Through the efforts of the city home demonstration agent a class in cookery for seventh and eighth grade girls has been conducted at the Guthrie Elementary School. The equipment installed by the parent-teachers' association for school lunches has made this possible. The popularity of the class with the girls affords the best sort of argument that the time is ripe for the introduction of the work into the seventh and eighth grades as a permanent course.

THE KORTRECHT HIGH SCHOOL (COLORED).

The equipment at the Kortrecht High School may have been adequate at the time of its installation, but it shows the wear and tear of many years of use, with practically no signs of renewal and no up-to-date additions and improvements. Desks are only partially equipped; there are no cases for sewing supplies; one gas range is so badly out of repair it can not be used; there is no means of heating water; and the walls and ceilings are dirty and unsightly. Class periods are only 60 minutes in length, frequently less. Laboratory classes are exceedingly large and two teachers are required to look after one class. In spite of these conditions the girls show a commendable spirit of industry and the teachers an enthusiasm and faithfulness that merits better tools for their work. The work is in the charge of a supervisor of considerable training and experience, but the other teachers have had no training beyond their own high-school work, and much of the time act merely as assistants to the supervisor. Better results would be obtained if teachers with more educational training were secured by the payment of larger salaries and every teacher held responsible for a definite portion of the work. If classes were a little smaller, each teacher could handle a division independently and a higher grade of work could be accomplished. Difficulty in obtaining supplies because of the necessity of an order going through several hands and the uncertainty resulting therefrom is a serious handicap, particularly to the cooking classes.

THE GRANT SCHOOL (COLORED).

In the Grant Elementary School for colored children a good cooking equipment has been installed and a minimum equipment for sewing is provided. The room fitted up for cooking is satisfactory, but arrangements for sewing in one corner of that room are most inadequate. A simple diningroom equipment is partitioned off at one side of the room. Were a similar arrangement made for a bedroom and a sitting room, the complete round of household duties could be taught. A larger room should be provided for the sewing classes, and it should be amply provided with lockers, cases for exhibits, and cutting tables. The low standard of class conduct prevailing in this school would in large measure be corrected by thus providing separate rooms for classes.

RECOMMENDATIONS FOR WORK IN HOME ECONOMICS.

1. *A city supervisor of home economics.*—Whatever the policy of home-economics teaching agreed upon, it is of great importance that a city supervisor of home economics be appointed, that all the courses may be properly planned and articulated, all expenditures wisely made, and that teachers be well qualified and correctly assigned. The city supervisor should be a woman of broad home-economics experience, whose educational training has been thorough and whose teaching has been sufficiently varied to enable her to understand the problems that confront both the elementary and secondary teacher. She should be a woman of recognized administrative ability, with tactful personality and force of character, so that in dealing with other trained teachers she will readily be recognized as guide and counselor. In addition to the planning and supervising of the courses, she should be intrusted with the purchase of equipment, the planning of rooms, the framing of the financial budget for

the department, and the choice of teachers. It will be necessary to pay the supervisor a salary that is in itself a recognition of her abilities.

2. *The home-economics program.*—In view of present industrial and social conditions, it is exceedingly important that all girls be given an opportunity to study home making. In the ideal school system, such training should begin in the fifth grade. Hand training may well be given in the lower grades, but the industrial work for girls should be definitely planned for home making from the fifth grade. Courses in cooking, sewing, and housewifery should continue throughout the fifth, sixth, seventh, and eighth grades. If cooking is taught in the fifth and eighth grades, and sewing in the sixth and seventh, there will be opportunity to reach most of those children who leave school at the age of 14 and to give them some training in sanitary habits and thrifty ways that will be of value to them throughout their future life. In the fifth and sixth grades, two 90-minute periods a week should be devoted to the lessons in home making. In the seventh and eighth grades three or four 90-minute periods can be advantageously devoted to the course. Should it not be possible to provide a sufficient number of school kitchens, sewing machines, and home economics teachers for all the fifth and sixth grades of the city, it would be well to introduce the courses in all the seventh and eighth grades and to add the work in the fifth and sixth grades just as soon as the finances of the city permit. Should junior high schools be developed, cooking and sewing laboratories can be provided in them for the seventh, eighth, and ninth grades. The work should be required in the seventh, eighth, and ninth grades. In order to carry out this plan successfully in the Vocational High Schools, a sufficient number of teachers must be provided so that classes can be arranged for beginners and for those who are to take intermediate and advanced work. This will also necessitate additional laboratory space. The larger number of girls thus provided for and the better work made possible will amply compensate the city for this increased expenditure.

In the four-year high school an elective course in home economics should be offered all girls during the first and second years. This should include cooking and sewing, together with the theoretical study of foods and textiles, that the girl of this age can now grasp. A special four-year home economics curriculum leading to a home economics diploma should be offered in high school for those girls who desire a broad and thorough training in home making. This curriculum should include the general subjects that form a basic part of all education, as well as the sciences and social studies specially related to home making.

The four-year home economics course for high schools should be built up on the elementary work in home economics offered in the grades and should be strengthened by the biological, chemical, and social sciences. Foods and cookery and clothing and textiles should be offered during the first two years of high school as full credit courses with the equivalent of daily recitations or double periods of laboratory practice. The method of arranging these courses should be determined by the supervisor. Civic biology should be given during the first year, general geography during the second year. Drawing, color, and design should run through both the freshman and the sophomore years. Thus a good basic course that can be elected by all girls in the high school, even though they are not following the home economics curriculum, will be offered.

The foods and cookery offered during these first years should cover all of the general science of cookery and the elementary knowledge of nutrition. At the close of the course the girls should be familiar with all the ordinary cooking processes and with the use of foods in the body. They should be able to choose, combine, prepare, and serve food to the family with a minimum expenditure of money and time and a maximum of health and bodily efficiency for the family.

In the same way the courses in sewing and textiles should acquaint the girls with the choice and purchase of textiles for all household and family purposes, and the preparation of all household fittings and garments for all members of the family.

These courses in the household arts in high school will differ from those in the grades in the development of the underlying principles and the measures of responsibility placed upon the girls. A greater degree of skill in handwork will be possible, and a wider diversity of projects will be offered together with experimentation and practice.

During the junior year of high school, dressmaking and millinery will be given, with costume design and interior decoration running parallel to these courses in the art department. Those weeks most suitable to the presentation of the millinery lessons should be made of use that the methods employed in the different seasons may be taught, and the remainder of the year should be devoted to dressmaking. Double periods daily will be necessary for this work and full credit should be granted. Chemistry should be given in the junior year as a preparation for the more advanced course in nutrition to be given in the senior year. A well-developed course in household chemistry will best meet the needs of the high-school student, and such a course should be carefully worked out.

During the senior year the maturity of the girls makes possible an intelligent handling of the problems of household management and the further development of many phases of the subject that have already been treated during the cooking courses. This year's course should include a study of the family budget, the method of keeping household accounts, housewifery, laundry work, and domestic service. The course in household chemistry offered during the previous year should be followed by a course in dietetics, the care and feeding of children, and nursing and first aid. The interrelation of these courses should be worked out by the supervisor, and they should be scheduled to the best possible advantage.

Courses in English are desirable during the four years of high school; however, the last two years of English may be elective with the possible alternates of modern and American history. All the other courses in the home-economics curriculum should be required and should be credit courses necessary in securing the degree.

In the Negro schools provision is already made for giving lessons in home making to the girls in the seventh and eighth grades and through three years of high school. As soon as possible this work should be extended down into the fifth and sixth grades, and a full four-year high-school curriculum similar to the home economics curriculum that is to be developed in Central High School should be provided for.

3. *The course of study.*—As the home-economics program is developed in the city of Memphis, the special needs of the girls in the various parts of the city must be considered and the course of study must be framed to meet these needs. A fairly definite course can be outlined, but the supervisor may need to modify this for the different schools. Such modification will be necessary for the negro schools, especially if the girls continue to leave school at an early age and do not return to take advantage of the high-school courses. While there is at present no great foreign element to be considered the possible presence of such an element in the city at some future time will mean other modifications of the course to meet their needs.

4. *Certification of teachers.*—Though State and city laws may exist for the certification of teachers, additional provisions to safeguard the standard of home-economics teaching in the city schools should be made. The grade teachers should have had at least two years' special home-economics training in normal school and two years' special home-economics teaching. The high-school teachers of home economics should have had the equivalent of a four years' home-economics course (two years of the course may have been taken in normal school) and should have a bachelor's degree in science. They should also have had two years' experience in special home-economics teaching.

5. *Salaries.*—The salaries paid home-economics teachers should be a recognition of their training and experience. A minimum salary equivalent to the minimum salary of grade teachers should be paid those teaching in the grades, and this should increase from year to

year. In high school the salary should be equal to that paid other special teachers with a maximum sufficient to encourage devoted work, continued study, and a prolonged tenure of office.

6. *The home-economics budget.*—A home-economics budget sufficient to provide for the new courses to be offered from year to year, and to pay for all necessary running expenses of the department, should be worked out by the home-economics supervisor and should form the basis for the provision of moneys for all expenditures. Expenses will include teachers' salaries, the purchase of new equipment and the repair of old, the supply of materials for cooking and sewing, and the preparation of printed or typewritten courses of study and other expenses incurred in administration of the courses.

7. *Type of equipment.*—A standard type of equipment should be provided in each one of the schools in which courses are to be introduced and should be kept in first-class condition by the necessary replacement and repair from year to year. Teachers should not be required to make shift with something that demands extra exertion to use, nor should students be robbed of the benefit of work with up-to-date equipment. Good classroom space that makes possible sanitary care should be provided. Desks and tables should be of correct height and size; cupboards and supply rooms should be provided. Rooms should be well lighted and completely screened.

8. *The lesson period.*—Lesson periods of from 90 to 120 minutes should be allowed for all laboratory classes. It is fruitless to endeavor to have five cooking lessons in 40 or 45 minutes, because bad habits of work will be formed and the teacher will find it possible to give only very superficial supervision. It is possible to form school programs for double periods if schedules are skillfully adjusted.

9. *Size of classes.*—A teacher should not be asked to have classes larger than 20. If the grades are larger, they should report in divisions ranging in size from 16 to 20 for cooking and sewing.

10. *A practice cottage.*—As the home-economics courses are developed it will be desirable to secure practice cottages or housekeeping apartments in which all the duties of the home can be worked out. These housekeeping apartments should be planned for in the new buildings as a part of the home-economics department.

11. *Use of product of sewing and cooking classes.*—In addition to the personal sewing which the girls are always ready to do, they should be encouraged to sew for others, that many types of garments to suit differing needs and tastes may be made. Teachers may have opportunity to introduce work for the Red Cross and other agencies that will add a new element of interest. In the cooking classes an outlet for the use of the product should be sought whenever possible. This is especially desirable in the high-school classes, where the development of personal responsibility is most necessary.

4. SCHOOL GARDENING.

In making a complete study of the education of a child for life it is as necessary to know his activities and environments when not in school as to study the school plant, equipment, and methods of teaching. This study has been undertaken to show how much of the time of the child in the upper grammar grades of the school is not directed by the schools; how much of this time is now utilized profitably; the relation of idleness to the juvenile court; and the possibilities of school-directed educative projects that will be of benefit in the making of the future citizen.

TIME IN SCHOOL.

The Memphis city schools were in session 172 days during the school year 1917–18. Excluding Sundays, there are, therefore, 141 days when the child is not receiving instruction in regular school sessions. No regular vacation school was conducted last year, nor is one contemplated during this summer vacation. The school day for white children of the upper grades is five hours in length, and the children are dismissed in practically all cases at 2.30 p. m. The daily session for colored children is also five hours in length, but the sessions begin one-half hour later in the morning, and all schools are dismissed at 3 p. m. Continuation classes or playground activities are not conducted by the schools after the regular school hours or during the summer vacation. Children of the city of Memphis must, therefore, look to other agencies than the schools for education, occupations, and play during 141 week days of the year and for 5 or 6 hours of each school day.

The playgrounds of the city are conducted as a municipal activity under the direction of the recreation commission. In this work organized games and free play activities are offered, but little attempt has been made to correlate the activities of this division with educational or occupational activities of children.

These industrial subjects are not completely organized in the regular school course, as shown by other chapters of this report. In the few grammar schools where manual work and domestic science have been introduced the equipment is not used after school hours or in vacation.

In the class instruction the regular academic studies are not largely vitalized by field excursion or nature study material brought to the classroom. A few of the teachers report field trips and laboratory work in nature study, geography, and biological sciences, but this work is left largely to the individual teacher.

MEMPHIS A PIONEER IN SCHOOL GARDENING.

Several years ago Memphis organized a rather ambitious plan for garden work in the public schools. It may be said that Memphis is one of the pioneers in this work, as this beginning was made at a time when the educational value and need for this work was not as well understood and approved by educators as it is to-day. The superintendent who initiated this work resigned and the work was dropped. Only spasmodic attempts have been made to revive this activity until the past season, although work with adults has been conducted by the Farm Bureau. Through the efforts of the city schools, the parent-teachers association, the Farm Bureau, and the United States School Garden Army of the National Bureau of Education a plan of instructing many school children in home gardening was inaugurated last spring. About 3,800 children were enrolled in the United States School Garden Army and the garden expert of the Farm Bureau was made supervisor of the Garden Army work. Teachers volunteered their services and rendered efficient aid until the closing of the school year. No money was furnished for employing teachers during the summer, and much of the educational and occupational value of the work will be lost through inadequate supervision. In order to keep up the enthusiasm and furnish the educational value of gardening to children, they must be visited and garden instruction given often. It is impossible for one person to visit and instruct 3,800 children in gardening, and some of the value of this work has been lost through this lack of adequate-paid supervision. Under war conditions, volunteer supervision has been effective, but in the long run it has proven unsatisfactory.

ACTIVITIES OF CHILDREN DURING THE OUT-OF-SCHOOL HOURS.

In order to get information on the present out-of-school activities of Memphis children, a questionnaire was sent to the teachers of grammar grades 4 to 7, inclusive. Reports were received from 4,967 white and 1,805 colored children. The eighth grade is not generally considered a grammar-school grade in the South and was not included when the information was collected. As this grade is considered a part of the grammar school in Memphis, it should have been included. In other surveys the same general averages hold for this grade as for the others, except that the number employed, especially boys, is from 5 to 10 per cent larger.

Of the 6,772 white and colored pupils reported, 1,027 or 15 per cent are employed in money-earning occupations away from the home after school hours and 975 or 14 per cent in vacation. The types of employment of boys vary greatly, but paper boys, errand boys, and helpers in manufacturing plants predominate. The per cent of employment of girls is much less than that of boys. The number of girls employed is unusually small. Girls are employed in running errands and as helpers in homes or in the care of small children. The average earnings per week of these children is $2.08 per week during after school hours and $4.62 per week in vacation. The average amount of money earned per week is least for the colored girls. The amount of employment outside the home does not vary greatly in the different sections of the city, but in all cases the amount of employment is less in the more congested areas of the city. This fact is surprising since the amount of home work is also less in the same schools.

Occupation of children in gainful pursuits outside the home.

Pupils.	Number reported.	After school.			In vacations.		
		Number employed.	Per cent employed.	Average earnings per week.	Number employed.	Per cent employed.	Average earnings per week.
Girls (white)	2,556	73	3	$2.10	60	2	$5.01
Boys (white)	2,411	641	27	2.36	604	25	5.19
Girls (colored)	1,154	48	4	1.63	90	8	3.60
Boys (colored)	651	265	41	2.25	221	34	4.68
Total	6,772	1,027	15	2.08	975	14	4.62

A much larger number of children have some duties at home than are employed in gainful occupation away from home. Sixty-three per cent of the 6,772 children reporting claim to have some regular home work. The number of hours of employment of these pupils is small, averaging only four hours per week for white children and about seven hours for colored children; 1,016 children are encouraged by receiving some pay for the work done at home. The amount of home employment decreases in the more congested section of the city.

Occupation of children at home.

Pupils.	Number reported.	Number having regular home duties.	Per cent.	Average number of work hours per week.	Number who receive pay.	Percentage paid of those working.
Girls (white)	2,556	1,481	58	4	360	24
Boys (white)	2,411	1,430	59	4	361	25
Girls (colored)	1,154	907	78	6⅞	208	23
Boys (colored)	651	450	67	7	87	19
Total	6,772	4,268	63	5½	1,016	21

When children are not in school or do not have definite occupation, the fact is always rather definitely recorded by the juvenile court records. A report of the Juvenile Court of Memphis for the months of June to December, 1918, inclusive, is suggestive. During this time the court handled 548 cases; of this number 450, or 82 per cent, were delinquents. The fact that 75 per cent of these children were released for satisfactory conduct at the end of the probationary period shows that they are not vicious, but that many of the offenses grew out of the spirit of play. With the lack of occupation, as shown by the children's own reports, it is little wonder that pursuance of the play instincts leads to mischievous activities.

Under city conditions one of the activities for children that has educational and occupational value is home gardening, if this activity has definite direction. In order to determine the possibilities for this work in Memphis, statistics were collected on the number of gardens at the homes of school children, the number of children who have gardens of their own or help in the home garden, and the availability of space for gardening. Reports were received from 6,693 children, representing 6,469 homes. Of the number of children reporting, 2,946 lived in homes having a garden. As the number of children is greater than the number of homes, the same garden has been reported in a few cases by more than one child. The reports show that 1,902 children help with the work in the home garden, and 1,115 have a home-garden space of their own. In some cases the same children help with the general home garden and also have a garden plat of their own. This number of children doing garden work, while not as large as it should be, is commendable, and is undoubtedly due to the campaign for Garden Army enlistments. The total number of children who do some garden work in the grades studied is 3,017, which, with the enrollment of eighth-grade pupils, would give about the 3,800 Memphis children reported as enrolled in the United States School Garden Army.

Statistics on home gardening.

Children.	Number reporting.	Number of homes represented.	Number children having gardens at home.	Number working in home gardens.	Number having own gardens.
White children	4,967	4,805	2,283	1,383	806
Colored children	1,726	1,664	663	519	309
Total	6,693	6,469	2,946	1,902	1,115

AVAILABLE SPACE FOR GARDENING.

With the exception of the business section along the river and the congested section near this district and along the railroads, the residential sections of Memphis are open and the building lots large. The available back-yard garden space at the homes of the 1,460 white children is 4,052,837 square feet, or an average plat of a little more than 50 by 55 feet for each child. A total home-garden space of 503,383 square feet is reported by 438 colored children, or an average plat per child of 25 by 45 feet. Taking both white and colored children into consideration, the 1,898 children report a total area of 104.6 acres.

Availability of garden space as shown by measuring back yards.

Children.	Number of pupils measuring garden space.	Number living in apartments.	Average size of garden space.	Total size, in square feet.
White children	1,460	567	50 by 55	4,052,837
Colored children	438	393	25 by 45	503,383
Total	1,898	[1] 960		4,556,220

[1] Of total reporting, 6,772.

Aside from the use of gardening as a productive educational activity, there are some other agricultural pursuits that may be used to occupy the time of the children. Of the 6,693 children reporting, poultry is kept at 1,795 homes. Practically all of these homes are in the more open suburban or semisuburban sections of the city, and it is unfortunate that in these same sections the children have more occupation than is the case in the thickly populated sections. Pigeons are kept at 379 homes and rabbits at 405. It seems that in most cases pigeons and rabbits are kept as pets rather than for their economic importance as food. Where the possibility of keeping animals for their economical value is found, the care of poultry, pigeons, and rabbits furnishes a home activity for children from which much real knowledge can be gained.

Other occupational activities of the home.

Children.	Number reporting.	Number owning poultry.	Number owning pigeons.	Number owning rabbits.
White children	4,967	1,202	286	378
Colored children	1,726	593	93	27
Total	6,693	1,795	379	405

COST OF VEGETABLE FOODS.

Under city conditions at present children are almost completely consumers. The boy on the farm, when he returns from school, has definite occupations that save the time of an adult and yet are often as skillfully done by the child. Country children are thus real earners in the home. Because city children have not been given the opportunity to produce their share of the family expense, the economic burden has become so great that many have been compelled to leave school before the completion of the grade courses in order that they may become wage earners. If a plan could be worked out whereby these children could engage in occupations outside the home which had some educational value, as in the keeping of animals or the making of gardens, and still attend school, it is possible that the period of school attendance might be extended for several years.

It is very difficult to give an accurate estimate of the average expense of vegetables for a family of five for one year in the Memphis district. Standards of living vary so much that it would be necessary from a standpoint of accuracy to collect figures from a number of different sections. The estimates submitted by the teachers on the cost of vegetable foods for a family of five range from $57 to $395 per year. The majority of the estimates, however, range from $110 to $150, which is somewhere near the accurate average figure. If this item of family expense alone is considered, the child who can produce enough vegetable foods to supply the home will become of real economic importance to the home.

TEACHERS' TRAINING.

In order to determine the possibility of school-directed home occupations, gardening and the care of small animals of economic importance, it is necessary to obtain statistics on training of teachers now in service to direct these home agricultural activities. A few of the teachers have taken agricultural courses at colleges and normal schools and are well qualified to direct these occupations in a practical way. Memphis is fortunate in having a State normal school, with a strong agricultural department, on the outskirts of the city, at which the teachers now in service in the Memphis schools could receive practical instruction. It is the chief duty of a State normal to supply elementary teachers. Since there is now a demand for a large number of teachers who are trained theoretically and practically in conducting home-garden work with children, the State Normal School at Memphis should become a leading influence in training such teachers for the western district of the State. The work at the normal school could be made more practical and also of distinct assistance to the garden work of the city of Memphis if the agricultural students could be used as garden-practice teachers in the district of the city near the school. This plan has been worked out satisfactorily by normal schools in other sections of the country.

The school-attendance districts in Memphis, in most cases, divide the city in uniform areas. The schools are centers of population of these districts and are the best units of division and most satisfactory centers from which to supervise the educational, occupational activities of the children. The children are in the habit of coming to the school for instruction, and for a little more than half of the year are assembled so that instruction may be given to groups without loss of time. In directing the home activities, starting from the school as a center, home-visiting teachers would not be required to walk long distances.

One home-visiting teacher is required to each 100 to 150 children. Thus two or more teachers would be required in most of the Memphis schools to conduct the home-project work with the children in grades 4 to 8, inclusive. By dividing the children according to districts, this would cut down the amount of territory each teacher is required to cover.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS IN GARDENING.

1. Memphis children are out of school 141 days of the year, exclusive of Sundays, and on school days they are free for four or five hours.

2. During school hours the present courses of study in Memphis are not vitalized to any extent by manual training, domestic science, nature study, or field excusions in connection with geography or other subjects.

3. At present the schools do not reach out into the out-of-school hours or vacation period to stimulate educational activities except as was done in gardening up to the close of the school session of this year.

4. During the out-of-school hours only 15 per cent of the 6,772 children reporting have definite employment away from the home and 14 per cent in vacation. Sixty-three per cent of the children have some employment at home, but as this employment is less than one hour per day, there are still four hours on school days and six to eight hours during vacation when the children do not have definite employment. Even when three hours per day are used for occupational activities, there would still be left sufficient time for play and home study.

5. At present the lack of employment often leads to malicious mischief that brings the child to the juvenile court.

6. At the present time there are enough activities in the homes of about half the children, so that definite home occupations might be organized if definite direction were provided by the schools.

7. There is enough available space so that home or vacant lot gardens might be furnished for practically all of the children. The

school districts are well laid out for the supervision of these home activities.

8. A few teachers are trained to direct home gardening and additional training can be received at the normal school located near the boundaries of the city.

9. There is need for purposeful education for all of the upper-grade children in the Memphis public schools. To round out the academic education that is now being given, the school should extend its influence in a practical way to the out-of-school time of the child. Under city conditions such education is needed and the school is the logical agency to promote such work efficiently and economically.

10. School-directed home gardening is not new, and the economic value of the plan has been demonstrated in many cities. By this plan a regular grade teacher is employed to teach gardening as a school subject during one or two class periods each week. This same teacher should, after school hours, on Saturday, and during the summer vacation, visit the homes of the children and give practical instruction in back-yard gardening. The teacher must, of course, receive some extra salary for the extra work. In other southern cities, where this plan is being carried out, the extra salary varies from $200 to $350 per year. This does not mean that extra teachers must be added to the regular staff, but rather that some of the regular teachers are selected and trained for this kind of additional teaching. One such teacher will be needed for each 100 to 150 children. For the present school enrollment about 50 white and 17 colored part-time garden teachers will be needed. The feasibility of this plan might be demonstrated by employing 10 white and 5 colored teachers for the first year and adding other teachers each year until the required number for all schools are employed. Considering the number of teachers employed in this work, when a complete plan is put into operation a supervisor will be required to train and direct the teachers. A representative of the Farm Bureau may act as such supervisor, but in this case should receive official appointment from the board of education, and act under the direction of and report to the city superintendent of schools.

11. By measuring their back yards, less than one-fourth the children enrolled in the grammar-school grades found a total available garden area of 104.6 acres. If this land produced vegetables at the rate of $200 per acre, a total money value of $20,920 would be saved to the Memphis homes. The average production per acre of children who have kept account of the value of their garden products is more than $500. If all of the children of Memphis could take up gardening on a similar scale the value of the products would be about $100,000.

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DEPARTMENT OF THE INTERIOR
BUREAU OF EDUCATION

BULLETIN, 1919, No. 50
IN SEVEN PARTS

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE

REPORT OF A SURVEY MADE UNDER THE
DIRECTION OF THE
COMMISSIONER OF EDUCATION

PART 7

HEALTH WORK

WASHINGTON
GOVERNMENT PRINTING OFFICE
1920

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LETTER OF TRANSMITTAL.

Department of the Interior,
Bureau of Education,
Washington, September 25, 1919.

Sir: I am transmitting herewith for publication as a bulletin of the Bureau of Education the report of a survey of the schools of the city of Memphis, Tenn., made under my direction. I am asking that it be printed in the following seven parts:

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics, and Gardening.
Part 7. Health Work.

Respectfully submitted.

P. P. Claxton,
Commissioner.

The Secretary of the Interior.

THE PUBLIC SCHOOL SYSTEM OF MEMPHIS, TENNESSEE.

INTRODUCTION.

In April, 1919, at the request of the Board of Education of Memphis, Tenn., the United States Commissioner of Education submitted the conditions on which the Bureau of Education would make a survey of the public school system of that city. These conditions, as stated by the Commissioner of Education, follow:

> (1) That the board of education, the superintendent of public schools, and all other public officers and teachers connected with the schools will give me and the persons detailed to make the survey their hearty cooperation, to the end that the survey may be made most effectively and economically.
>
> (2) That the survey committee be permitted to find the facts as they are, and, in so far as may seem advisable, to report them as they are found.
>
> (3) That the findings of the survey committee and such recommendations for the improvement of the schools as may seem to be desirable may be published as a bulletin of the Bureau of Education at the expense of the Federal Government for distribution, first, among the citizens of Memphis and, second, among students of education throughout the country.
>
> (4) That the necessary expenses of the survey, including expenses for travel and subsistence for employees of the bureau detailed for this work, and the honorariums and expenses of the one or more additional persons whom it may be necessary to employ to assist in the work will be paid by the board of education. It is understood, however, that the board will not be obligated for expenses beyond $5,000.
>
> It is my purpose to begin the survey on or before May 12 and to have the field work of it finished in June. The final report will be submitted and printed as early as possible after the 1st of July. Such portion as may be needed by the board in determining their building policy for next year will be submitted as much earlier than the 1st of July as possible.

On May 5 the commissioner was notified that all the conditions named had been agreed to. To assist him in making this study the commissioner appointed the following commission:

THE SURVEY COMMISSION.

Frank F. Bunker, *Specialist in City School Systems, Bureau of Education, director of the survey.*

Thomas Alexander, *Professor of Elementary Education, Peabody College for Teachers, Nashville, Tenn.*

William T. Bawden, *Specialist in Vocational Education, Bureau of Education.*

Hiram Byrd, *Specialist in Health Education, United States Public Health Service.*

Elmer W. Christy, *Supervisor of Industrial Education, Public Schools, Cincinnati, Ohio.*

Fletcher B. Dresslar, *Specialist in School Architecture, Sanitation, Buildings, and Equipment, Bureau of Education.*

Arthur W. Dunn, *Specialist in Civic Education, Bureau of Education.*

Will Earhart, *Supervisor of Music, Public Schools, Pittsburgh, Pa.*

Alice Barrows Fernandez, *Specialist in Social and Industrial Problems, Bureau of Education.*

Florence C. Fox, *Specialist in Primary Grade Education, Bureau of Education.*

Ada Van Stone Harris, *Director of Elementary Practice Teaching, Public Schools, Pittsburgh, Pa.*

Carrie A. Lyford, *Specialist in Home Economics, Bureau of Education.*

F. A. Merrill, *Specialist in School and Home Gardening, Bureau of Education.*

John L. Randall, *Specialist in School and Home Gardening, Bureau of Education.*

Willard S. Small, *Specialist in School Hygiene and Physical Education, Bureau of Education.*

George R. Twiss, *Professor of Secondary Education and State High School Inspector, Ohio State University.*

The field work began May 12 and was completed June 7, except that two members of the staff remained two weeks longer.

While the time for the examination of conditions was short, the schools closing for the year on June 13, nevertheless, through careful organization of the work and through frequent meetings of the staff for the discussion of every phase of the problem, definite and positive conclusions in which all concurred were quickly reached. Although the commission as a whole considered every important activity of the work of the system, each member was assigned to the particular field of his interest. The reports of the members of the commission were organized by the director of the survey and transmitted to the Commissioner of Education for his approval. The report is issued in separate parts for general circulation.

THE PARTS TO BE ISSUED.

Part 1. Chapter I. An Industrial and Social Study of Memphis.
Chapter II. School Organization, Supervision, and Finance.
Chapter III. The Building Problem.
Part 2. Chapter I. The Elementary Schools.
Chapter II. The High Schools.
Part 3. Civic Education.
Part 4. Science.
Part 5. Music.
Part 6. Industrial Arts, Home Economics and Gardening.
Part 7. Health Work.

This study of the Memphis schools is intended to be a study of policies and of practices; not of persons. The commission has con-

sciously avoided either praising or blaming, crediting or discrediting, individuals. The matter of placing an estimate upon the value of the services which individuals are rendering is the duty of local authorities; it falls outside the province of the survey commission and has not been attempted.

The commission desires to express its appreciation of the courtesy and consideration shown its members by citizens of Memphis, the members of the board of education, the secretary's office, the superintendent and his clerks, and the entire school corps. Without exception, all cooperated to make the investigation as thorough and as efficient as the time would permit.

A special word of appreciation is due the management of the Young Men's Christian Association for providing office rooms and equipment for the staff, without charge, and to the local company handling the Burrough's Adding Machine, which very kindly loaned one of these machines to the staff.

A summary of conclusions and recommendations will be found at the end of each chapter.

PART VII.—HEALTH WORK.

CONTENTS.—Educating for vigor and sanity—The obligation of the schools—Physical condition of school children—Mental status of children—What is being done—A plan proposed—The high schools—Summary of conclusions and recommendations.

EDUCATING FOR VIGOR AND SANITY.

The drama of preventive medicine has unfolded with almost bewildering rapidity during the past quarter of a century. Among its episodes are the conquest of such ancient and formidable enemies of man as yellow fever, malaria, typhoid fever. It has established permanent strategic principles for combating all communicable diseases. It has developed the principles of preventive tactics. Not unnaturally, the external factors in the conquest of health—sanitary engineering, public hygiene, and prophylactic measures—have bulked large both in scientific thinking and in popular imagination. This finds concrete illustration in the slogan of the public-health propagandists "Any community can buy health if it is willing to pay the price." The external conditions of health can be bought by a community, but the health of a community is the collective health of individuals, and each individual must achieve the personal strength, vigor, and disease-resisting power, which together constitute health, through the practice of personal hygiene. This basic fact has been somewhat obscured by our success with communicable diseases.

The World War cast a flaming shaft of light into this obscurity. We had conquered the most frightful of the epidemic diseases (until the "flu" came to mock us for a season); we had made it possible to assemble and quarter great armies in safety, but the men who should constitute those armies—what of them? One-third of them unfit for military duty on account of diseases, disabilities and defects, few of which bore any relation to communicable disease. They were rather the offspring of heredity and neglect. Not only that! When we had hurriedly jerked an army together and by rigorous culling had eliminated the glaringly unfit, we found that even of the selected men many were woefully lacking in strength, endurance, resilience, and resistance to disease, as well as in practical knowledge of everyday personal hygiene.

In the clear light of this revelation we realize that any community desiring the physical fitness of its citizens must include in its plans and specifications much more than the external factors of sanitary engineering, public hygiene, and medical prophylaxis; it must include measures for the nurture, the physical education, of its children. Stock breeders have long since learned this lesson. Witness the beautiful horses, hogs, and cattle annually exhibited at the Tri-State Fair here in Memphis, the concrete results of applied animal husbandry, applied not by veterinarians (though veterinary science has had its part), but by those who have had committed to their care the feeding, housing, and training of the young animals.

It behooves us to take a leaf out of the book of animal husbandry for the benefit of *human husbandry.* Admit at once that the eugenics factor is eliminated from the analogy. Admit also that the nurture of a horse or a hog is a simple thing compared with the nurture of a human child. Admit, finally, that the child is committed to the care not of one "husbandman" but of many. The essential fact remains that the principles of human husbandry are infinitely less understood and infinitely less applied by those who care for children than are the principles of animal husbandry by those who care for animals. The public school is the agency for applying the principles and democratizing the knowledge of human husbandry.

I. THE OBLIGATION OF THE SCHOOLS.

"It is worse than a crime," said a diplomat, "it is a blunder." There is no more mischievous educational blunder than that of building educational procedure upon the traditional misconception of education as merely a matter of mental training—the acquisition of certain knowledge and skill. The introductory chapter of this report gives clear evidence that this blunder has not been repeated in this survey. Throughout this report the organic character of education is emphasized—its economic, social, and vital relations. "What kind of activities should be provided in the schools in order that the children of Memphis shall grow up to be healthy, intelligent, self-reliant, and worthy to carry on the traditions of the city" is a constantly recurring undertone. Human husbandry is implicit throughout.

A complete program for guarding and increasing abundance of life through the schools involves five fairly distinct factors: A wholesome physical environment, hygienic school management and methods of instruction, teaching of health, physical training activities, and health examination and direction.

WHOLESOME ENVIRONMENT.

By wholesome is meant not only "hygienic," but also ample and pleasant; grounds and buildings that shall contribute as much as inanimate surroundings can contribute to the growing of "healthy, intelligent, self-reliant" children. This is a basic condition of human husbandry. Growing plants and young animals can not grow successfully in unwholesome surroundings. It is not enough to say, even if it could be said truthfully, that the physical environment is such that no harm is done to the pupils; the obligation is discharged only when the physical environment of the schools is such as to promote positively the growth and vigor of the children. The requirements relative to a wholesome physical environment are adequately covered in Chapters III, IV, and V.

But original construction is not enough. A perfectly wholesome school plant may be unwholesome if improperly operated. Proper operation means adequate supervision. This matter is partly covered in the sections just cited. Salutary improvements are recommended in the organization and administration of the janitor service, but there is no recommendation relative to supervision of the janitor service or for sanitary inspection of the school buildings.

The former of these two requirements would be met by a central head or supervisor of the janitor service, responsible for the efficient performance of the janitorial functions and the morale of the janitorial force. The second requirement would be met by periodic sanitary inspection of the school plants by competent inspectors. This work should be under the direction of a responsible head of coordinated school health work.

HYGIENIC SCHOOL MANAGEMENT.

This involves both physical and mental considerations upon which the morale of the school depends. The ideal is a school in which such essential physical conditions as ventilation and lighting are continuously respected; in which the daily schedule is so organized as to conserve the energies of pupils and teacher and to avoid undue fatigue and nervous strain; in which the disciplinary atmosphere is such as to produce good cheer, confidence, and industry. Recognition of this principle permeates the chapter on the elementary schools. The realization of such ideals in practice depends less upon special hygienic supervision than upon suffusing the entire school procedure with everyday knowledge of physical and mental hygiene. The recommendations in the section on Organization, Administration, and Supervision relative to the education, selection, compensation, and supervision of teachers, if carried out, will go far toward promoting hygienic management and methods of teaching.

THE TEACHING OF HEALTH.

Health, in the sense of a strong, enduring, disease-resisting, flexible, responsive body mechanism, is quite as much a matter of acquisition as is ability in playing the piano or ability to manage men. There are differences in native endowment, to be sure, but each individual must earn health by obeying the laws of health just as he must develop any other endowment. "Health, like happiness, is to a large extent a matter of habit, and therefore can be taught."[1] If, however, health is to be taught successfully, a few simple principles must be religiously observed. The following summary of the most important of these principles is taken largely from the pamphlet quoted above.

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[1] Teaching Health. Health Education No. 4. Bureau of Education, 1919.

1. The end to be aimed at is not *information*, but *action;* not simply *knowledge* of what things are desirable, but rather the *habitual practice* of the rules of healthy living.

2. Health teaching must be positive, not negative. We must learn to think of health in terms of strength and beauty and joy, rather than of weakness and disease. We must say "Brush your teeth regularly, so that you may enjoy the feeling of a fresh, clean mouth, and have a sweet breath, and a fine shining set of strong teeth!" not, "Don't forget to brush your teeth or they will decay and you will have a bad digestion."

3. Health must not be taught didactically, but by personal example and object lesson. Frequently it must be taught indirectly. The child has no interest in health for health's sake, but every girl desires to be beautiful and every boy desires to be strong and athletic. The wise teacher will build on these natural interests of the children, and inspire them to do the things which will result in physical beauty and strength. The health crusader program is an illustration of the principle.

4. Time must be allowed every school day from the kindergarten upward for health exercises and instruction. In the lower grades this time should be devoted wholly to the promotion of health habits. It is the *what* rather than the *why* which should be impressed on the younger children. With the older children the reasons for health rules take more prominence, and in the upper grades the habits which have been formed in the lower grades should be reinforced by accurate scientific knowledge. In the upper grades the pupils should be interested in public health movements, and much information of personal value can be thus indirectly conveyed. For instance, in studying the phases of the campaign against tuberculosis the pupil learns many facts about the disease and its prevention, with the advantage that his attention is directed outward and is not morbidly turned in upon himself. An essential part of this "instruction" is the daily morning inspection. This inspection may be a rapid review by the teacher, or it may take the form of a health club, in which the children are inspected by one of their own self-appointed health officers.

5. The pupils' progress in health should be recorded and reported as regularly as progress in arithmetic, reading, or any other school subject. The Classroom Weight Record, issued by the Bureau of Education, is a convenient means at once of recording progress in growth and enlisting the interest of pupils.

The State Normal School of Trenton, N. J., has devised a plan of crediting school and home work in hygiene. It has been used successfully in the schools of Westfield, N. J. It might be adapted to almost any local situation.

Class work	50
I. Personal appearance	10
1. Neatness of dress. (*a*) Buttons on. (*b*) Clothes brushed. (*c*) Shoes shined.	
2. Hair neatly arranged.	
II. Personal habits—Hygienic	10
1. Cleanliness. (*a*) Face. (*b*) Hands. (*c*) Nails. (*d*) Teeth.	
2. Exercises at home.	
3. Sleeping with window open.	
III. School housekeeping	10
1. Neatness of desk (inside, outside).	
2. Neatness of floor near desk.	
3. Neatness of cloakroom.	
4. Appearance of book covers.	
IV. Manners	10
1. Attitude toward teacher.	
2. Attitude toward classmates.	
3. Attitude in the home.	
V. Posture	10
1. Standing.	
2. Sitting.	
3. Marching.	

6. Finally, the health teaching must be integrated with the physical training activities. The physical efficiency standards recommended in the section on physical training activities offers an ideal means of bringing home to each child of the middle and upper grades the personal value of observing the simple health requirements. The desire to be up to the standard or to excel the standard is a sure stimulus to effort.

It would not be wise to attempt to outline a "course in health instruction" for the Memphis schools. That would likely result either in wooden conformity or indifferent observance. What is recommended is that the principles as sketched above be studied, digested, and applied. The thing to be desired is interested interest-compelling, and constructive effort on the part of teachers and supervisors. The Health Education series of the Bureau of Education in the hands of all the teachers should furnish a sound basis for development of this vital part of the education program.

Physical training activities.—Physical education broadly and rightly conceived is a general term. Included in its meaning are all the factors that condition and contribute to the development of "bodily vigor and endurance, muscular strength and skill, bodily and mental poise, and the social and moral qualities of courage, self-control, self-subordination, cooperation under leadership and disciplined initiative." Muscular activity is the active principle of physical education. Physical training therefore is the active factor in physical education. A repertory of physical training activities adapted, with due consideration of age and strength, to securing the ends enumerated above is fundamental in a program of human husbandry.

The elementary school program.—The "Manual of Physical Exercises and Games for Public Schools of Memphis—First to Eighth Grade," outlines the program of physical training activities for the Memphis elementary schools. The program consists of calisthenics and games for the primary grades; calisthenics, wand and dumb-bell exercises, and games for the upper grades. Footwork and marching exercises are included throughout. Ten minutes a day is the prescribed time for this part of the program. In some of the schools where teachers specially interested in this work have been assigned to conduct it, from 20 to 30 minutes a day are given.

That the author of the manual, the present supervisor of physical education, is appreciative of relative values is shown by such statements as the following found in the text, "Exercising out of doors is of greater benefit to the pupils than exercising in doors; therefore, move game class out doors for exercising as often as the weather permits." "Impress upon the pupils, especially girls, the importance of wearing loose garments." "Games are the most suitable and beneficial (forms of exercise) for the lower grades." There is, however, a somewhat disproportionate emphasis, in the explanation and directions, upon the disciplinary objects of physical training at the expenses of the æsthetic objects. The calisthenic exercises are explained in detail and with precision; there is little or no explanation of the games. The repertory of games is good.

There is no reference in the manual to modern school playground activities or to the socialized athletics so conspicuous in the present day progressive programs of physical training activities. These omissions may doubtless be attributed in part to the fact that the manual was issued in 1909; and in part to the lack, at that time, of official hospitality to such innovations in educational practice. The keen interest of the supervisor in such movements and his just appreciation of their community importance are attested by a brief statement furnished by him in regard to the history of the playground movement and the "safe and sane Fourth of July."

THE COMMUNITY PLAYGROUNDS.

About 15 years ago, after giving numerous public exhibitions and demonstrations with my classes in physical training, a few altruistic citizens organized the local "Play Ground Association." After the usual trials and tribulations that public-spirited and benefiting organizations are subject to, our park board generously donated $300 and sufficient space in the parks for playground purposes. The money was invested in purchasing apparatuses, which were equally divided among the three parks. The success of these cases of recreation and play for children was so pronounced that the park board offered all of Market Square for this purpose. After being equipped with the necessary apparatus purchased by funds donated by a few members of the Playground Association, and being located in one of the most densely populated districts of the city, this place proved to be a real blessing. Our next increase of playgrounds was through the generosity of Mr. Rosier, of the Memphis Steam Laundry. He equipped a large lot on Washington Avenue and Fourth Street with all the necessary paraphernalia and donated it to the city. Owing to the lack of proper supervision and care, this place had to be abandoned, the apparatus being moved to Forest Park, which is now our fifth playground. In recent years a recreation commission has been created with sufficient funds from the city to enable them to employ a supervisor and a number of teachers. Though the results have been good and satisfactory, yet there are many hundreds of children in real need of recreation and hygiene who would be benefited by the establishment of a few playgrounds in the more denseuy populated parts of the city.

SAFE AND SANE FOURTH OF JULY.

Some 11 years ago, my attention was called to a movement, originating, I believe, in the Eastern States, which was to wean our youth and many adults from the vicious and dangerous manner of celebrating the "Birth Day of Liberty" to a more sane, safe, and joyous one. Realizing the great and incalculable educational value of this beautiful movement, a number of public-spirited citizens organized our local "Safe and Sane Fourth of July Association" with the purpose of celebrating our "Liberty Day" in a more appropriate way. From year to year the new method proved more and more attractive to young and old. The program, consisting of suitable gymnastic and atheletic games for both sexes, was given annually, though changed each year. Thousands of children participated, their joy and happiness being an adequate compensation for the strenuous work of the organization.

Health examination and direction.—This factor in the program is discussed in extenso in Sections II–V, inclusive.

II. PHYSICAL CONDITION OF MEMPHIS SCHOOL CHILDREN.

There are no records of the physical condition of the children in the Memphis schools. In the time at the disposal of the survey no extensive examination could be made. It was decided therefore to secure approximate data by two methods: (1) By the examination of a limited number of children in representative schools; (2) by getting estimates from teachers as to the numbers of certain classes of defective children.

Examination of 600 children.—It is recognized that the examination of only 600 children out of a school population of 22,000 is merely a sampling process. It is believed, however, that by reason of the representative character of the schools selected, the results of these examinations will serve as a fairly reliable index of general conditions. In each of two white schools and in one colored school 200 children were examined, and comparisons made upon the basis of height, weight, eyes, teeth, and progress in school. In selecting the white schools Riverside was taken as representing a large laboring element; and Snowden as representing a somewhat more exclusive white population. Grant was taken as a typical colored school. The examinations were limited to the age groups 10 to 14 years, inclusive, nearest birthday. An equal number of boys and girls, unselected except as to age, gave 20 of each sex at each age in each school.

Height and weight.—Table 1 gives the average heights and weights of these 600 according to race, sex, and age. No significant differences are shown in the average height and weight of the two races at the different age periods.

TABLE 1.—*Average height and weight of boys and girls, 10 to 14 years of age, inclusive—400 white and 200 colored children.*

Age in years.	White.				Colored.			
	Boys.		Girls.		Boys.		Girls.	
	Height, in inches.	Weight, in pounds.	Height, in inches.	Weight, in pounds.	Height, in inches.	Weight, in pounds.	Height, in inches.	Weight, in pounds.
10	52.8	66.9	53.3	66.3	51.4	62.7	53.4	68.0
11	54.8	69.8	54.4	72.1	54.4	72.9	55.7	74.8
12	56.9	77.9	57.2	83.8	55.4	77.5	57.4	77.9
13	58.7	88.9	60.0	95.0	57.3	81.1	58.7	87.0
14	59.8	94.8	60.8	96.4	58.2	88.5	60.4	99.0

Table 2 shows the average height and weight of the Memphis children, based upon these 600 examinations, compared with the norm compiled by the Children's Bureau. The Memphis group of boys at 10 years are slightly under the norm in weight, and at 14 are slightly under the norm in both weight and height; but at all other points they are above the norm. The girls are above the norm for both height and weight at all ages.

TABLE 2.—*Height and weight of 600 children of Memphis, compared with Children's Bureau norm.*

Boys.		Norm.		Girls.		Norm.	
Height in inches.	Weight in pounds.	Height in inches.	Weight in pounds.	Height in inches.	Weight in pounds.	Height in inches.	Weight in pounds.
52.1	64.8	51.7	65.3	53.3	67.1	51.2	62.3
54.6	71.4	53.2	79.2	55.1	73.4	53.5	68.8
55.1	77.7	55.0	76.8	57.3	80.8	56.0	78.3
58.0	85.0	57.2	84.8	59.3	91.0	58.2	88.7
59.0	91.6	60.0	94.8	60.6	97.7	60.0	94.6

But the average height and weight of these children is not the most significant thing. Much more important is the relation of weight to nutritional contrition. It is now generally recognized that there is an average weight for a given age and height, and that when a child falls very far below this average, undernourishment is indicated. The table of comparative heights and weights issued by the Bureau of Education for the various age groups, and quoted below, was used in making these studies.

TABLE 3.—*Height and weight.*

BOYS.

Height, inches.	5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	15 yrs.	16 yrs.	17 yrs.	18 yrs.
39	35	36	37											
40	37	38	39											
41	39	40	41											
42	41	42	43	44										
43	43	44	45	46										
44	45	46	46	47										
45	47	47	48	48	49									
46	48	49	50	50	51									
47		51	52	52	53	54								
48		53	54	55	55	56	57							
49		55	56	57	58	58	59							
50			58	59	60	60	61	62						
51			60	61	62	63	64	65						
52			62	63	64	65	67	68						
53				66	67	68	69	70	71					
54				69	70	71	72	73	74					
55					73	74	75	76	77	78				
56					77	78	79	80	81	82				
57						81	82	83	84	85	86			
58						84	85	86	87	88	90	91		
59						87	88	89	90	92	94	96	97	
60						91	92	93	94	97	99	101	102	
61							95	97	99	102	104	106	108	110
62							100	102	104	106	109	111	113	116
63							105	107	109	111	114	115	117	119
64								113	115	117	118	119	120	122
65									120	122	123	124	125	126
66									125	126	127	128	129	130
67									130	131	132	133	134	135
68									134	135	136	137	138	139
69									138	139	140	141	142	143
70										142	144	145	146	147
71										147	149	150	151	152
72										152	154	155	156	157
73										157	159	160	161	162
74										162	164	165	166	167
75											169	170	171	172
76											174	175	176	177

GIRLS.

Height, inches.	5 yrs.	6 yrs.	7 yrs.	8 yrs.	9 yrs.	10 yrs.	11 yrs.	12 yrs.	13 yrs.	14 yrs.	15 yrs.	16 yrs.	17 yrs.	18 yrs.
39	34	35	36											
40	36	37	38											
41	38	39	40											
42	40	41	42	43										
43	42	42	43	44										
44	44	45	45	46										
45	46	47	47	48	49									
46	48	48	49	50	51									
47		49	50	51	52	53								
48		51	52	53	54	55	56							
49		53	54	55	56	57	58							
50			56	57	58	59	60	61						
51			59	60	61	62	63	64						
52			62	63	64	65	66	67						
53				66	67	68	68	69	70					
54				68	69	70	71	72	73					
55					72	73	74	75	76	77				
56					76	77	78	79	80	81				
57						81	82	83	84	85	86			
58						85	86	87	88	89	90	91		
59						89	90	91	93	94	95	96	98	
60							94	95	97	99	100	102	104	106
61							99	101	102	104	106	108	109	111
62							104	106	107	109	111	113	114	115
63							109	111	112	113	115	117	118	119
64								115	117	118	119	120	121	122
65								117	119	120	122	123	124	125
66								119	121	122	124	126	127	128
67									124	126	127	128	129	130
68									126	128	130	132	133	134
69									129	131	133	135	136	137
70										134	136	138	139	140
71										138	140	142	143	144
72											145	147	148	149

Prepared by Dr. Thomas D. Wood.

These tables are based upon examination of white children only. The deviations shown by the 200 colored children make their value doubtful for use with colored children. It is probable that, in the case of colored children, tables will have to be worked out based upon this race alone.

Comparison of the results of measurements of the 400 children in the two white schools with the above table gives the following percentages of children 10 per cent or more underweight:

Riverside (large laboring population)	31 per cent
Snowden (exclusive white population)	18 per cent
Average for whites	24.5 per cent

It is significant that the less fortunate economic group shows 13 per cent more underweight than the more fortunate group. This corresponds with the findings in investigations elsewhere of the growth of children.[1]

A child who is 10 per cent below the average for his age and height is probably undernourished. Dr. W. R. P. Emerson, of Boston, whose extensive experience with this problem gives his opinion special authority, says that "the child who is chronically 7 per cent underweight for his height is not only undernourished but malnourished."[2] Ten per cent, therefore, may be taken as a conservative danger signal. All such children require further examination and consideration.

Though there is doubt of the applicability to colored children of the tables used above, there is no reason to doubt that there is as much undernutrition among the colored as among the white children. Indeed, the lower economic status would indicate a probability of more. Assuming, however, an equal degree among the two races, and assuming that the three schools are fair samples of the school population, then there are in it *approximatey 3,700 white and 1,800 colored undernourished children.*

Nutrition is the most fundamental factor in the general development and well-being of children. Moreover, it is believed that attention to nutrition is vitally important in the prevention of communicable diseases. Certain it is that the most vital part of the treatment of tuberculosis is the diet; it is hard to escape the conviction, therefore, that if diet is important in the matter of cure, it is even more important in the matter of prevention.

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[1] In a study of London elementary schools, some years since, Dr. Kerr found ill-nourished children as follows: In good-class schools, 12 per cent; in medium schools, 14 per cent; and in poor schools, 47 per cent.

[2] Emerson. A Nutrition Clinic in a Public School. *American Journal Diseases of Children,* 17: 251–63, April, 1919.

Eyes.—The Snellen Test was used in examining the eyes. This test is based upon the principle that the normal eye is sensitive

50 FT

B T R

40 FT

Z L H E

30 FT

A F B S G

20 FT

E R O D B A

10 FT

H D N P K L R

to light from a five-minute arc of a circle. It consists of a large card with letters of varying sizes, each subtending an arc of five minutes at the distance indicated by figures at left and above each line.

In practice the card is placed upon the wall where it is well illuminated, and the child placed at a distance of 20 feet. One eye is tested at a time, the other being covered but not closed. If the child can read all the letters to be read 20 feet, his visual acuity is normal, and is marked 20/20. If he can not read these, but can read those to be read at 30 feet, his visual acuity is marked 20/30, which means that it is only twenty-thirtieths of the normal.

The test is admittedly faulty, but it is the best at our disposal. It is faulty in that it takes no account of accommodation. Errors of refraction depend upon the size and shape of the eye. Some of these errors, when not too pronounced, can be overcome by action of the ciliary muscles which pull the optical parts of the eye into more obliging shape. In such case, if the error be not too gross, accommodation may overcome it altogether, although perhaps at the expense of considerable strain. In such a case the child would be suffering from eye strain, although the Snellen Test would show a visual acuity of 20/20.

From this it is also apparent that muscles of accommodation that are in good tone can overcome a larger error of refraction than those that are not. It is found that eyes will test out better in the morning, when the muscles of accommodation are rested, than late in the day, when they are tired. It is therefore not surprising to find an intimate relationship between nutrition and vision.

For purposes of comparison the children tested were divided into three groups:

Group I includes all children in which both eyes tested 20/20 or better. These are rated as normal vision.

Group II includes all children in which one eye, or both, tested 15/20. These are rated as slightly subnormal, and are to be kept under observation for further evidence of eye strain. Such evidence usually manifests itself in the form of headache, blinking, and a tendency to hold the printed page, when reading, in malposition.

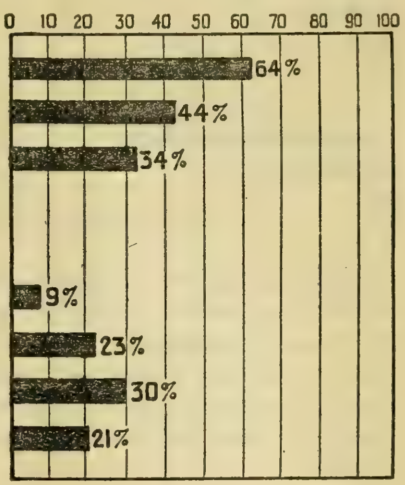
Group III includes all children in which one eye tested 10/20 or worse. These are rated as seriously subnormal. They are in need of the service of an occulist for more careful examination than is possible with the Snellen Test, and for advice and treatment.

TABLE 4.—*Relative visual acuity of 200 children in each of the three schools.*

Schools.	Group I.	Group II.	Group III.
	Per cent.	*Per cent.*	*Per cent.*
Riverside	44	33	23
Snowden	64	27	9
Grant (colored)	34	35	30
Average			21

The disparity between the Riverside and the Snowden children is striking but not surprising, when it is recalled that the precentage of underweight is 31 per cent and 18 per cent, respectively, for the two schools.

The Grant School (colored) made a worse showing than either of the white schools. But there was another factor to be reckoned with in applying the Snellen Test to the colored children: They did not seem to have the power of intense effort of the white children. Those who are familiar with the test as applied know that effort is an important factor in bringing the muscles of accommodation into action, and that, other things being equal, those children that try the hardest to see will see the best. The average of 21 per cent so seriously defective as to need advice at least of an oculist, is not surprisingly large. The examinations of several million children in all civilized countries show about 20 per cent as the average.

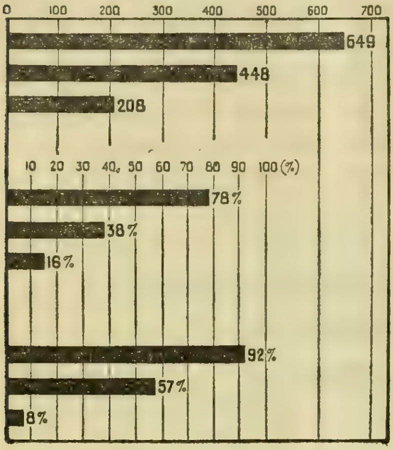


Teeth.—The teenth of the same 600 children were checked up with respect to the number decayed, filled, and extracted. The wealthiest group shows the worst teeth. Among the 200 children in the Snowden School there were 649 teeth that had developed decay; in the Riverside, 448; in the Grant (colored), 208. These differences are ot due to lack of dental care. In the Snowden group 78 per cent of the decayed teeth had received attention; in the Riverside group 38 per cent; and in the Grant only 16 per cent. Furthermore, the Snowden chidren had received early attention when the teeth could be saved by filling, as shown by the fact that of the teeth that had received attention 92 per cent had been filled as against 8 per cent extracted. The relative percentages for the Riverside group are 57 per cent filled, 43 per cent extracted; and for the Grant, 8 per cent filled, 92 per cent extracted.

These three sets of facts are shown in figure 2. No explanation of these disparities is attempted. The matter of practical importance is that so many who need early dental treatment do not get it when needed.

Tuberculosis.—No accurate survey of the extent of tuberculosis was undertaken. The best evidence available would indicate that for the country at large 5 per cent of the children have, or have had, incipient tuberculosis. The data have been collected chiefly among the white population. Tuberculosis is unquestionably more prevalent among the negroes. Assuming 5 per cent for both white and black, there are in Memphis approximately 725 white and 375 colored children with incipient tuberculosis.

The only indication as to the number of acute cases among the children is furnished by the teachers' estimates. These estimates, 14 white and 20 colored, are probably short of the actual numbers.



Teachers' estimates of defective children.—In order to secure at least approximate information in regard to the numbers of certain groups of defective children, the teachers were asked to make a census of such children. This enumeration included not only such children in their respective classes but also children of school age not attending school who were known to the teacher. It could not be expected that these reports would be entirely accurate, but the evident thoroughness and care shown in the reports give confidence that they are not far wrong. In the case of feeble-mindedness, indeed, the number estimated by the teachers for the white schools conforms closely with the normal expectation, i. e., teachers' estimate, 101; normal expectation, 120. The results of this inquiry are shown in Table I. Each of these groups represents a special educational problem.

TABLE 5.—*Certain defective groups reported by teachers.*

Defective groups.	White.	Colored.	Total.
Markedly tubercular	14	20	34
Crippled	43	24	67
Deaf (or nearly so)	42	26	68
Blind (or nearly so)	25	18	43
Stammerers	45	57	102
Epileptics	8	9	17
Feeble-minded	101	105	206
Refractory	45	100	145
Others	362	828	1,190

Summary of conditions.—Assuming that the three schools are fairly representative of the physical status of Memphis school children, the salient facts may be summarized as follows:

TABLE 6.—*Summary of defective children.*

	White.	Colored.
Number 10 per cent or more underweight	3,700	1,800
Number of children testing 20/20 vision both eyes (Snellen Test)	8,000	2,466
Number of children testing 10/20 in one eye	2,376	2,218
Number of children with perfect teeth	1,856	3,696
Number of teeth that are or have been decayed	40,000	8,000
Number of these that have been:		
Filled	28,520	102
Extracted	2,480	1,178
Untreated	9,000	6,720
Number having incipient tuberculosis	725	375

In addition to these, there are the special groups of defectives shown in Table 5.

III. MENTAL STATUS OF CHILDREN.

The war brought up into clear daylight some things that we were blinking. One was that all men are not born equal so far as intelligence is concerned. Up to November 1, 1918, approximately 1,500,000 men in the Army were tested in accordance with mental tests prepared by a joint committee of the American Psychological Association and the National Research Council. The method of rating and the results of these tests are shown below:

TABLE 7.—*Mental tests in the Army in 1918.*

Rating.	Significance.	Approximate percentage of total.
		Per cent.
A	Very superior intelligence	4.5
B	Superior intelligence, but not up to A	9.0
C plus	High average intelligence	16.5
	Total of above	30.0
C	Average intelligence	25.0
C minus	Low average intelligence	20.0
D	Inferior intelligence	15.0
D minus or E	Very inferior intelligence	10.0

In further explanation of the ratings the committee states:

> The immense contrast between "A" and "D minus" intelligence is shown by the fact that men of "A" intelligence have the ability to make a superior record in college or university, while "D minus" men are of such inferior mentality that they are rarely able to go beyond the third or fourth grade of the elementary school, however long they attend. In fact most "D minus" and "E" men are below the mental age of 10 years and are at best on the border line of mental deficiency. Many of them are of the moron grade of feeble-mindedness. "B" intelligence is capable of making an average record in college; "C plus" intelligence can not do so well; while those with a mentality of "C" grade are rarely capable of finishing a high-school course.

Attention is invited to this last clause, namely, that "C" grade is rarely capable of finishing a high-school course. It will be noted that above "C" grade are "A," "B," and "C plus" grades, which *are* capable of finishing high school, and that these aggregate 30 per cent of the total number of men examined. This means, then, if it means anything, that of the men between 21 and 31 years old, only 30 per cent have the intellectual capacity required to graduate from high school. The other 70 per cent must perforce stop on this side of a high-school education. It means, if it means anything, that of the 2,216 white children in first grade in the Memphis schools, only 664 have the intellectual capacity to graduate from high school. The other 1,500 and more—what of them? The "D minus" and the "E" groups, about 225 in number, may struggle to the third or fourth grade; the remaining 1,300 or so will ultimately string along from the third or fourth grade to the eighth.

Upon the basis of native ability, children range from the very lowest order of intellect, idiocy, up through feeble-mindedness, dullness, average intelligence, superior intelligence, very superior intelligence, to occasional genius. There are no sharp lines of demarcation between these orders. They are like the keys of a piano—a gradual ascent from the bottom to the top. Every child has his place in this scale somewhere.

Now, it would be convenient to have some method of speaking of different parts of this scale, so that one could say of a given child, he stands at such or such a place in the scale of intelligence—an intelligence yardstick, so to speak. A rational approach has been made in the Binet-Simon scale and its derivatives. An average child has greater mental ability at 3 years of age than at 2; more at 5 than at 3; more than 10 than at 7. A child of 10 years has a chronological age of 10, but if the same child has the intelligence of an average child of 7 years, he has a mental age of 7 years. To secure a formula for the ratio of mental age to chronological age, the mental age is divided by the chronological age, e. g., mental age 7 divided by chronological age 10 equals .7, or 70 on the scale of 100. The result is known as the intelligence quotient or I. Q. A child 10 years of age with the mental age of an average child of 7 years has an I. Q. of 7 divided by 10, equal to 70 on the scale of 100.

Having now an intelligence yardstick, we are in position to understand something of intelligence distribution among children. A study of 1,000 unselected cases, 5 to 14 years of age, by Terman,[1] is very instructive. He arranges their I. Q.'s as follows:

The lowest 1 per cent go to 70 or below; the highest 1 per cent reach 130 or above.
The lowest 2 per cent go to 73 or below; the highest 2 per cent reach 128 or above.
The lowest 3 per cent go to 76 or below; the highest 3 per cent reach 125 or above.
The lowest 5 per cent go to 78 or below; the highest 5 per cent reach 122 or above.
The lowest 10 per cent go to 85 or below; the highest 10 per cent reach 116 or above.
The lowest 15 per cent go to 88 or below; the highest 15 per cent reach 113 or above.
The lowest 20 per cent go to 91 or below; the highest 20 per cent reach 110 or above.
The lowest 25 per cent go to 92 or below; the highest 25 per cent reach 108 or above.
The lowest third go to 95 per cent or below; the highest third reach 106 or above.

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[1] Terman, Measurement of Intelligence, Houghton Mifflin Co., 1916.

Terman gives further point to these values by suggesting the following I. Q. classification:

I. Q.	
Above 140	Near genius or genius.
120–140	Very superior intelligence.
110–120	Superior intelligence.
90–110	Normal, or average, intelligence.
80–90	Dullness, rarely classifiable as feeble-mindedness.
70–80	Border line of deficiency, sometimes classifiable as dullness, often as feeble-mindedness.
Below 70	Definite feeble-mindedness.

Roughly, then, children may be divided into three groups—the "lower twenty," the "middle sixty," and the "upper twenty," meaning the lower 20 per cent, the middle 60 per cent, and the upper 20 per cent. It will be seen that the "middle sixty" includes normal or average intelligence. In the lower 20 will be found the "dullness, rarely classifiable as feeble-mindedness; the borderline deficiency, sometimes classifiable as dullness, often as feeble-mindedness; and the definite feeble-mindedness." These are distinctly misfits in a class with the middle 60, or average children. The upper 20 includes the "Superior intelligence, very superior intelligence, and the 'near' genius and genius." These are equally misfits in a class with the middle 60. But all these fits and misfits are lumped together into one class. The genius and near genius are in the same class with borderline deficiency often classified as feeble-mindedness. They are assigned the same lessons, expected to do the same work, take the same examinations, and pass or not pass according to the same standard.

Mental grouping applied to Memphis.—If Terman's proportions hold for Memphis, then we have here among 12,000 white children in the grammar grades (approximations only):

Group.	I. Q.	Per cent.	Grade of intelligence.	Number.
I	Below 70	1	Definitely feeble-minded	120
II	70–80	4	These are the borderline cases; some of them are merely dull, but more are feeble-minded.	480
III	80–90	15	These are the dull or slow mentality cases, rarely feeble-minded.	[1] 1,800
IV	90–110	60	These are children of average mentality. It is this group that the course of study is planned for, that the examinations are made for; all are expected to stand or fall according to the standards set by this group.	7,200
V	110–120	15	These are of superior intelligence, and could in most cases complete the eight grammar grades at 13 years of age.	1,800
VI	120–130	4	These are of very superior intelligence. It is a great injustice to them to hold them down to a course of study so far beneath their abilities, and to train them in habits of idleness for lack of something commensurate with their abilities. These are the future leaders of the nation.	480
VII	130 and above.	1	These are the "near" geniuses and the geniuses. The system is perpetrating the gravest wrongs upon them.	120

[1] Sixty per cent of all the wayward girls are found, according to latest venereal disease work, in the lower 20.

But where are these low-grade and high-grade pupils, Memphians will ask. Here is where some of them are. One, a boy of nine years, was found in the Riverside School. He is both an *unfit* and a *misfit.* He is *unfit* in that he has some ill-defined nervous disturbance which would require further study before a working diagnosis could be made. He needs *physical* attention. He is a misfit, in that he has rare intellectual ability, and I. Q. of 135. In school he is reported a trouble maker. Yet it is admitted that he is good in mathematics. The truth is the boy has nothing to which to harness his mind, and it runs wild. Add to that an affliction, which gives him somewhat of a grotesque appearance, and the result is that he keeps the other children in an uproar. He is not working himself, nor is he permitting others to work. If his mind were harnessed to something commensurate with his abilities, his attainments would be noteworthy. As it is, he is a handicap to the school he is attending and the school is likewise a handicap to him.

In the Snowden School are some misfits. One a girl, a healthy, robust specimen, is distinctly feeble-minded; in there with the others of her age, struggling along, and the teacher struggling too, trying to get her somewhere, wearing out the teacher and robbing other pupils of time that is legitimately theirs.

It is safe to say that in every school in the city are to be found both unfits and misfits, the one suffering from some physical handicap, probably correctible, and the other from mental misplacement—placed with a group doing work for which the child in question can not do.

LIGHT FROM JUVENILE COURT SCHOOL.

The Juvenile Court School will throw some light on the effect of making misfits of children. The juvenile court receives pupils on three several counts, namely: Truancy, incorrigibility, and domestic unevennesses. The truancy children, Mrs. Tate stated, are there largely because of pending examinations they knew they could not pass. This condition of being a misfit in school leads to truancy, and to the court. The incorrigibles, to some extent, find their way to the juvenile court because they have been misfits in school. A probable case in point was A. S. At the time A. S. was in court, intelligence testing was unknown in Memphis, and so we have no record of his I. Q. But there is evidence that he was of superior intelligence. The record shows that he was reputed to be a great trouble maker and that he was tried out in several schools. The words used to describe him are "deficient," "brilliant," "erratic," "incorrigible." The record runs:

> Finally, after several changes, was brought to the juvenile court for folowering misdemeanor: Found a drunken man in Forrest Park asleep; bought 10 cents' worth of gasoline and poured it over him and set fire to it to see him run. The man was badly injured. The boy thought it was a joke. In

Juvenile Court School he always did most exceptional things. His remarkable talent or intellect discovered in his dramatization of trial of boy. He took issue with the teacher on some question of discipline concerning another boy. She said in fun, "You take charge of this case." He took her at her word, which she had the good sense to permit, took his seat as judge, appointed counsel for the defense, and prosecuting attorney, called witnesses, and disposed of the case in due form, and in a remarkable manner. * * * One day a traffic policeman at Main and Madison fainted, and traffic became confused. A. S. stepped in, took the policeman's club and directed traffic till relieved by an officer, and did it so well that the Memphis papers gave him a big write-up. He was 14 years old at this time. Erratic and brilliant conduct continued. Did exceptionally well in lessons. Fond of speaking. Always did the spectacular. When war was declared, he enlisted. Was found to have ability as radio operator. Was sent to Harvard and later to sea. Boat on which he was wireless operator was captured by Germans. Officer forbade his sending any message. He slammed the door in the officer's face, held it with his foot, sent an S. O. S. call, which was answered, then shot the officer, and jumped overboard, and was later picked up by an American vessel. Is in service now.

The Juvenile Court School was probably the best place for A. S. at the time. Here, it is true, he was mixed in with the incorrigibles, the truants, the feeble-minded, the brilliants, and the erratics, but, nevertheless, here at least, he could exercise his initiative without repression.

There are many more treatment records, to be found in the Juvenile Court School, but this will suffice to illustrate the point in question. By the law of average there ought to be 120 cases of feeble-mindedness in the schools, and as many more that are of such low grade intellect that they are almost equally difficult problems. Miss Mable Lee Cooper, psychologist of the board of education, whose generous help and cooperation has made this phase of the study possible, says in her report for last year: "There are approximately 300 pupils in our city schools who for some reason are not able to keep up with normal children." This says, by inference, that these are not normal children, they are misfits calling for further study and a reclassification. Miss Cooper goes on to say: "There is a second class who are 'mentally incapacitated to do school work beyond the second grade.'" More misfits. Now add to these the misfits by reason of superior intelligence and the list mounts up considerably.

These last misfits, those who are wrongly placed because of superior intelligence, are not only suffering a gross injustice themselves, and transmitting an injustice to the school through their own enforced idleness, but at the same time the State is being deprived of its most valuable asset, its potential leaders of men and women. And not only that, it is costing good money to keep these children back. We have seen that there are some 1,800 children, if the law of average holds for Memphis, who have an intelligence rating of "superior." These children, according to Terman, could, in most cases, complete the eight grades in seven years. Here are, then, 1,800 school years lost through unnecessary retardation. Then we have, by the same reckoning, 480 children rated as "Very superior." These could complete the eight grades in six years. These lose two years each through unnecessary retardation. This makes another 960 school years lost, or a total of 2,760 school years lost in eight years, or an average of 345 school years annually. This is equivalent to maintaining, year in and year out, a white school of 345 pupils. Now, such a school costs at the present time, in Memphis, over $16,000 a year. It is true this is not a tangible asset, but it is none the less real.

There is no deception in these figures. They may not be quantitatively correct, but in principle they will not be challenged, and in quantity they are as nearly correct as the data at our disposal will warrant. *More money is lost in this one item alone than is necessary to maintain an adequate school health service.*

IV. WHAT IS BEING DONE.

It must not be inferred, from the preceding survey of conditions, that no notice has been taken of the unfits and misfits, and that nothing has been done toward relieving the situation. The character and extent of the measures already underway are shown in the following paragraphs:

Nursing service.—The board of health employs 15 school nurses, 1 in the office and 14 in the field. In addition to their public-school work, the nurses perform similar service in the parochial schools, in all about 25,000 children. They also do a good deal of general community work.

Primarily their duty is with the communicable diseases. Quite properly communicable disease is always the first concern of boards of health. It was communicable disease that first called a board of health into existence in America. The board of health in Memphis owes its establishment to yellow fever. Here, as elsewhere, therefore, the first duty of the health authorities is with the control of communicable diseases. The *individual* disabilities, "the diseases of heredity and neglect," are necessarily a secondary consideration.

The nurses have done a limited amount of work in the field of individual disabilities, but nothing commensurate with the needs. Last year, e. g., they found 380 cases of children whose eyes needed attention. According to the estimates recorded above, there are approximately 4,000 children needing such attention. It is not clear that all of the 380 detected cases received the needed attention.

Practically nothing has been done for the teeth.

This is no criticism of the nurses. The writer is witness to the multitudinous demands upon their time made by the communicable-disease work.

School-board efforts.—The school board has made two tentative approaches to the problem of malnutrition—the open-air school and the school lunch. Neither of these, however, goes far enough to make a real dent in the problem. The open-air school accommodates about 25 pupils; there are 4,000 who are 10 per cent or more underweight. Of tubercular children alone, even though the standard estimate is cut in half, there are more than 500.

The hot school lunch, even if adequately administered, is only one factor in the solution of the malnutrition problem. That the school lunches are not adequately administered in some of the schools at least is shown by the reference to insanitary conditions in the section on janitor service. (See Chapters III and IX.)

The misfits.—The educational authorities have taken steps also toward the solution of the problem of the mental and social misfits by the appointment of a school psychologist for diagnostic purposes, the establishment of a special school and the juvenile court school.

The psychological service has been put on as an isolated service. As such it can not function most efficiently. Mental deficiency and physical deficiency are so closely related that they can not be studied and treated separately without loss to both sides of the equation. In spite of this handicap the psychologist has proved to be one of the best assets of the educational system. Much has been accomplished in the way of testing and classifying the misfits.

The special school for certain of the mental misfits is good as far as it goes. It takes care of only about 25 children. According to the estimates of Miss Cooper, the school psychologist, there are at least 300 children needing such special care. The Juvenile Court School provides for a small additional number of mental and moral misfits (not always carefully discriminated). The combined facilities of the two schools, however, are quite inadequate to the needs even of the very deficient group.

No provision is made for such special groups of defectives as the cripples, the blind, the deaf, the stammerers, and the epileptics. These are all educable. When educated they are an asset to society, at least not a liability; when uneducated they are inevitably a liability. But they can be educated only when special provision is made for them.

SUMMARY OF EXISTING PROVISIONS.

Summarizing, then, there are in the elementary schools of Memphis some 20,000 children instinctively striving to grow up into healthy, intelligent men and women fit to bear their several parts in carrying on the civilization which is their heritage. Approximately two-thirds of them are "normal" in the sense that they are free from defects and disabilities that will permanently handicap them or impede their growth and development. The other one-third are handicapped by disabilities and defects of such kind and degree that, unless corrected, they condemn these children to incomplete manhood and womanhood.

If these defects and disabilities were all irremediable, this discussion would be idle. But they are not all irremediable. Comparatively few are incurable, many may be completely cured or at least alleviated; others are tendencies to defects or weaknesses that can be largely overcome by protection and nurture, by humane and intelligent "child husbandry."

Furthermore, it must be recognized that the debt would not be paid, even if full provision were made for salvaging and protecting the one-third who are actually or potentially defective. It is even more important to provide for the full realization of the potential capacity of the normal two-thirds. This fact was emphasized painfully in our training camps, where it was made evident that a great many of the young men who had passed the physical examination were lacking in strength, endurance, agility, muscular control, disciplined initiative, and knowledge of how to take care of themselves. A large majority were *physically uneducated;* many were *physical illiterates.*

The job then is twofold: Negatively, prevention, correction and alleviation of deficiency; positively, stimulation, development, and training of potential capacity—"unchaining the powers of man for the sake of life itself—its vigor, its beauty, its expression."

The school can be but one factor in such a program of child husbandry. Good housing, good feeding, sane regulation of child labor, and provision for the husbandry of children under school age are essential. But the function, the obligation and the opportunity of the school as set forth in the first chapter of this report are great and imperative.

V. A PLAN PROPOSED.

Memphis should look forward to a well-coordinated administration of these several factors in human husbandry as applied to its schools—wholesome environment, hygienic management and instruction, health teaching, physical training activities and health supervision (with special reference to the unfits and misfits). As already indicated, both the school department and the health department have part in such work as is carried on. Their respective fields of service are not clearly defined, though at present there is no overlapping, chiefly, perhaps because so little is done. The health department attends to the inspection for contagious disease and affords some casual examination of individual disabilities. The school department is responsible for the physical training activities, the work for the misfits, and the conduct of the open-air school and the juvenile court school.

There should be established a line of cleavage between the functions of these two departments. This is not altogether an easy task. In practice there is wide variation. In England, Scotland, France, and Switzerland, for example, all school health work is administered by the education authorities. In the United States, of the States having comprehensive medical inspection laws, some provide for administration by the school department (e. g., Massachusetts, New York, New Jersey, Maine, California, Utah); some, by the health department (e. g., North Carolina, Florida); some, jointly by the school and health departments.

There are similar diversities in the larger cities. Boston, Cleveland, Newark, Los Angeles, and others concentrate all phases of school health work, including medical inspection for communicable diseases, under the school department. In others, e. g., New York Philadelphia, Chicago, Detroit, the health department is responsible not only for inspection for communicable disease but also for examination for individual defects and such remedial and corrective work as is carried on. In still others, e.g., Pittsburgh, Birmingham, St. Louis, the communicable disease work falls to the health department; all other phases of the school health work are taken care of by the school administration.

These diversities are not surprising and ought not to be disconcerting. Both public health and public education are recognizing their larger functions and obligations. The conception of health as a public responsibility grew out of the recognition that communicable disease is controllable. It has grown and expanded until it sees that it has a larger obligation to society than policing against germs. It aims at the conservation and promotion of the general health of the public. The public school was first of all a school for literacy. Attendance was voluntary. Compulsory school attendance is now practically universal. Coincidentally the conviction has ripened that education is more than literacy—that is, is a great enterprise in social engineering. Furthermore, it is recognized that compulsory attendance carries with it a very special obligation, namely, to educate the children who are compelled to attend school. This involves both the duty of guarding all children from untoward external conditions and of providing proper educational procedure for all children, including the unfits and the misfits. Finally, the school exists as an administrative instrument ready to hand for developing new and germane extensions of educational policy.

The line of cleavage.—It would seem that the real line of cleavage should be between functions that are medical and those that are educational. There is at present a twilight zone that must be explored and delimited in accordance with administrative efficiency and economy.

If this is a correct analysis of the situation, Memphis should look forward to a health department with resources adequate for the performance of all specifically public health work. With respect to the schools, this would mean not only control of communicable disease but also provision for expert medical examination and remedial care of the children needing such service and who otherwise would not receive it. This service should be a part of the public health policy of the city and should be rendered to the children, not as school children, but as citizens of its future. It should not waste its resources by using expert medical or nursing service for formal supervision; it should conserve its resources for expert medical and nursing service. Ultimately this must mean the provision of public clinics, not exclusively for school children but equally for children under school age and for the general public. Whether the clinics are located in school buildings or elsewhere is purely a matter of convenience.

On the other hand, the schools should organize the resources to take care of all other phases of the total program. If this principle is adopted, the twilight zone problem will be successfully solved.

Lack of funds.—As matters stand, neither the health department nor the school department is in position to carry out its part of the program. Neither has the financial resources to do what it should do. In the section "The Ability of Memphis to Finance the Proposed Program" (see Part II of this report), it is shown that Memphis does not measure up to the average of the cities of her class in financial support either of health and sanitation or of schools. The per capita expenditure for the former was, in 1917, $1.38 as against $1.94 average; for schools $3.68, as against $5.91. The undeveloped state of the public health work in Memphis is shown by the fact that it does not employ a full-time health officer. Here is a city approaching 200,000 population, destined to reach half a million in the next decade, and yet not sufficiently concerned about its health problems to train one man's full thought and full time upon them. The superintendent of health, the secretary, the health officer, able physicians with large practices, all jointly running a machine that no one of them is employed to train his full thought upon! It should be understood that conservation of the general health is a specialty in medicine. It should be understood further that public health procedures have not been so standardized that the machine can be set going with the assurance that it will go on automatically. It is a live, growing, charging thing, and one that calls for the best thought that the best man in the community can give it. Commercial interests are finding this out and are spending large sums of money in safeguarding the health of their employees, because they are finding that it pays in dollars and cents to do so. The Metropolitan Life Insurance Co., for example, spends large sums annually in safeguarding the health of its policyholders because it pays. The Tennessee Coal and Iron Co., of Birmingham, with its subsidiary companies, employs a large number of people, 50,000, perhaps. For several years past this company has been spending increasingly large sums to conserve the health of its employees, because it pays.

The undeveloped state of the school system is illustrated by comparison of Memphis, with respect to the unfits and misfits, with cities in which special classes and supervision are provided for the deaf, the semiblind, the speech defectives, the anemic, the cripples, and the mentally defective.

A working plan.—It is safe to assume without question that the physical training activities, the conduct of special schools for exceptionals of all kinds, the teaching of health and the maintenance of hygienic school management, belong to the school. The twilight zone is in the realm of disease, defect, and disability. Taking conditions just as they stand, assuming no immediate large increase in the resources of eithed department, it is recommended that the line of cleavage be drawn tentatively between communicable disease and the disabilities due to heredity and neglect. Let the department of health be responsible for the former, the department of education for the latter.

BOARD OF EDUCATION.	DEPARTMENT OF HEALTH.
The disabilities of heredity and neglect, as errors of refraction, decayed teeth, accumulations of tartar leading to diseased gums and pyorrhea; accumulations of wax in ears, dirty teeth, skin, nails, scalp; malnutrition due to errors of diet, including kind, quantity, and preparation; and errors of habit, as too little sleep, too great activity: and postural defects, such as drooping shoulders, loose and slovenly gait, etc. It will be noted that many of these deficiencies are due to neglect and are to be corrected by instruction and training. Others are genuine ailments and defects that, though requiring expert medical diagnosis and treatment, are easily detected by anyone with ordinary intelligence and a little training in observing symptoms.	The acute communicable diseases, as diphtheria, measles, mumps, scarlet fever, whooping cough, smallpox, chicken pox, rabies, cerebrospinal meningitis, infantile paralysis, etc. The insect-borne diseases, as malaria. The diseases of intestinal origin, as typhoid, the various forms of dysentery, cholera, hookworm, etc. The social diseases, as tuberculosis, the venereal diseases, etc. The above groups, it will be noted, are those that belong logically to the health organization. But this leaves unplaced that phase of child conservation extending from conception to entrance into school. It is this period that covers the most critical time of existence and calls for prenatal supervision, as in the training and licensing of midwives; providing literature for expectant mothers, etc.; and preschool supervision, covering the six tender years in which the death rate is highest, and when resistance is lowest. This phase logically belongs to a subdivision for child hygiene in the health department.

Advantage of the plan.—In practice such a plan would work out admirably in Memphis. By relieving the school nurses (who constitute part of the health department forces) of a part of the work they are now endeavoring to do, the health department would be enabled to take on the preschool work, without additional appropriation, a work which is sorely needed, and which at present gets little more than passing notice from any source.

It would open up to the schools teaching opportunities to which they are now oblivious. This is perhaps the most important aspect of the whole matter. In the matter of health the principle, neglected since the days of apprenticeship of *learning to do by doing*, might come into its own. We do not learn how to conserve health by listening to lectures, or reading books, or studying physiology or hygiene, or having a health department to do those things for us; we learn to conserve health by conserving it. For example, let us take the matter of measuring up our children upon the basis of height, weight, age, grade, eyes, and teeth. It is no small undertaking to keep record of 22,000 children, and upon the basis of measurements to determine who need the attention of the dentist, or of the oculist, or who need their nutrition looked after. It is such a large undertaking that many communities would say they could not afford it on account of cost. But how long would it take to do it if 500 workers were trained upon it? In groups of 5, they could do 100 a day with ease. There are 1,000 eighth-grade pupils in the Memphis schools, half of whom under intelligent supervision and direction could keep an accurate set of records of the entire schools. In the examinations that were made in the Riverside, Snowden, and Grant schools (the latter colored), most of the work was done by a team of eighth-grade girls under supervision. Four eighth-grade colored girls at the Grant School, for instance, made all of the examinations and records, except the eyes.

Coordinate present agencies.—If the recommended line of cleavage is adopted, the next step in organizing a working program for the schools is to coordinate the agencies now at work and to give them unified direction.

The nucleus of a practical teaching and health inspecting service exists already in the temporary provision for the modern health crusade work. This is now an isolated piece of work. It should be integrated with the plan of health teaching heretofore outlined, and this plan of health teaching in turn should be developed to include the organization of a health inspection service by the older and more capable pupils.

The school phychologist and the special school for mental misfits make the nucleus of an administrative unit to take care of all classes of exceptional children, the neurotic, the deaf, the semiblind, the speech defectives, as well as the various grades of mental misfits.

For the active phase of physical education there is something more than a nucleus in the department of physical training; it is rather an organism that is suffering from arrested development. Suggestions have already been made for lifting the causes of arrest and for enabling this phase of education to contribute in full measure toward making all the children stronger, more resilient, more resistant, better coordinated. *The one thing lacking is to have all this coordinated under a single competent head.*

The three steps necessary to put these recommendations into effect are:

1. For the board of education and the department of health to adopt the "Line of cleavage" herein proposed.

2. For the board of education to create a department of "School hygiene" or "Physical and health education" and to bring together in this new department the health-crusade worker, the physical director, and the psychologist.

3. For the board of education to secure, as head of the department of school hygiene, one whose abilities are commensurate with the magnitude and importance of the undertaking. Preferably, in order to coordinate properly the several branches of the work, he should be a physician, with knowledge of clinical psychology and the principles of physical education. He should know present-day educational conditions. Above all he must have organizing ability. The entire success or failure of this program rests upon this selection. Better leave it alone than undertake it without adequate directive energy behind it.

Such a department of school hygiene should begin with the forces enumerated above. Obviously effort should be directed to meeting the physical needs in a broader way. All development should be based upon examination and actual findings. To this end the first work of the director should be to institute a system of examinations and records city-wide in scope and covering the most common physical defects, such as nutrition, shown by age, height, and weight; visual acuity, and condition of teeth. The findings will indicate to what extent provision should be made for looking after nutrition.

From the indications in hand it is probable it will be found that the facilities for combating undernourishment are at present totally inadequate. As pointed out the midday lunch, by itself, hardly scratches the surface of the problem. The open-air school, even if it were a complete preventive, takes care of only 25 children. There are at least several hundred undernourished children. Development of this service should probably be in the direction of nutrition classes for the undernourished, conducted along lines worked out by Dr. W. R. P. Emerson, in New York. It is the most effective method yet devised for meeting the needs of malnutrition in a large way. Moreover, it has a teaching value of the first order, the children studying their own cases in class and, under intelligent guidance, bringing their own weight up. In that case the open-air school could be kept for the worst cases, those that would not profit by the nutrition class.

It goes without saying that the eyes and teeth of all children in need of attention should have it. It has already been suggested that ultimate clinical facilities sould be provided, not for children as school children, but for the school children as part of the public citizenship.

VI. THE HIGH SCHOOLS.

The report of the National Education Association commission on the reorganization of secondary education on "Physical Education in Secondary Schools"[1] sets for the minimum program of physical education that schould obtain in any modern city high school. Approximately this program is now in operation in many cities; in some it is exceeded. The essential principles underlying this report are given in the following quotations:

> In the new civilization one of the most important problems of the high school, and the central problem of physical education, is how to secure and conserve health. This is becoming more and more a community problem.
>
> The schools have been slow to adjust their program to the changed needs of the pupils and the community. Pupils no longer go to school three months in the winter to learn to read, write, and cipher, securing their vocational skill and bodily power during the other nine months. They go to school nine months and are idle the other three because the opportunities for developing vocational skill and bodily endurance have been taken away from them with the removal of industry from the home to the factory. The school must accept the new conditions of this industrial age and provide adequate opportunity for bodily exercise related to vocational skill and for the fundamental bodily exercises related to health.
>
> Many people to-day are preserved to maturity who formerly would have died in childhood. Medicine has made splendid strides during recent years in decreasing the mortality due to zymotic diseases. The diseases which are increasing, those of the nervous system, are more inimical to the organic health of those who survive than are the infectious diseases.
>
> While the increase in nervous diseases is rightly charged to a failure of bodily adjustment to the environment of the new civilization, to the saving of the weaker ones who formerly died in infancy, and to the greater strain of modern conditions, and although the number so classified is due in part to better diagnosis, it is a just indictment to say that the public schools have materially helped to augment conditions which lead to these diseases. It is not enough that the schools should not continue to increase the tendency to these diseases; they should in a constructive way assist in the necessary health adjustments of the pupils in city and country. It is the firm belief of this commission that the modern public high school owes a duty to the health of the adolescent

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[1] This report is published as Bureau of Education Bulletin, 1917, No. 50.

youth of this country as a fundamental element of education. It is the belief of this commission that this duty is possible of fulfillment.

So far the public school has preempted the field of health education without occupying it. Theoretically, educators believe that health is more important than quantity of knowledge; practically, they seldom act upon the belief. The program of studies has not been adjusted to meet the changed needs of the pupils. The present arrangements for physical activity can be looked upon only as palliative measures in that they give some relief from the school desk. They are essentially of negative character, aiming to minimize harmful influences. The work of the schools calls primarily for the functional activity of the higher centers of the central nervous system. It fails to emphasize the principal positive hygienic factor in that it disregards the motor activities related to the lower nervous centers controlling circulation, respiration, nutrition, and elimination. Besides, it neglects an important phase of education in that it minimizes to the vanishing point those motor activities related to good carriage, motor presence, motor personality, and motor consciousness. The attainment of adequate motor control is impossible with the present equipment and time allotment.

Health is definitely related to the vigorous use of the big muscles of the trunk and legs. Instruction should be given in exercises and games which will bring into play these large fundamental muscles and should be pushed far enough to stimulate circulation, respiration, and perspiration. Methods of study should be devised which will allow more freedom and bodily movement even in academic work.

The tendency in some quarters to substitute military drill for more fundamental activity is a serious mistake. The addition of physical education to military drill for the rank and file of the armies of the world is a significant fact which should make clear the folly of such substitution. The thorough physical education courses at West Point and Annapolis, in our own country, and the fact that an Army officer was sent to the United States by the Dutch Government to take normal courses in physical education at Springfield, to prepare himself to take charge of physical education in the Dutch military academy, show the need of the basis of an all-round motor training. In order to insure the preservation of health and the educational point of view in physical exercises, the administration of physical education should be lodged in the hands of the educational authorities exclusively. No narrow policy of mere military drill should be substituted for a broad program of fundamental health activities.

The war has amply confirmed these observations in regard to military training.

The health needs of the high-school pupil call for the following health program:

I. A careful health examination which should include:
    A. Medical inspection.
    B. Mental examination.
    C. Physical examination.
II. A healthful environment in home and school.
III. Instruction in health problems.
IV. Physical activity.
    A. Equipment, minimum requirement.
    B. Amount and kind, minimum requirement.
    C. Kind of exercise.
V. School credit.

That the Memphis high schools fall far short of realizing this program is obvious.

Health examination.—The only health examination given to high school pupils is the medical examination given to the prospective cadets. This follows, strictly, the army examinations. Its purpose is solely to eliminate the unfit; its purpose, in no sense, is to "discover how nature has endowed the individual." There is no mental examination, the necessity for which is shown in the section of this report on "Mental Status"; and no adequate physical examination calling for a "close study of the growth and physique of the pupil and a close correlation of the conditions found with the physical activity prescribed." For the girls there is no health examination. In view of the amount of personnel devoted to physical education in the high schools such examination is practically out of the question.

Healthful environment.—The possibilities of a healthful environment in the Central High School are large, but they are not fully realized, in the judgment of the survey force. This is not a matter for detailed specification; by way of illustration, however, it was found that one toilet room for boys was lacking in adjacent lavatory facilities. Close sanitary supervision of school plants as recommended in the section on that topic would reveal the defects and the remedies for defects.

The Vocational High School has small possibilities. A new building at the earliest possible time is the solution of that problem. The obvious remedial improvements are summarized in the section on buildings.

The Colored High School as it now stands has no possibilities. It is a liability only.

Instruction in health problems.—Apparently little attention is paid to this matter on the program of studies. The report above referred to makes the following recommendation:

> The pupils should be given instruction in: (a) The practical elementary problems which concern their health; as, for example, diet, care of the teeth, sex, sleep, exercise, and bathing in school and at home. (b) The general conditions related to health, as room temperature, ventilation, dust, school seatings, and posture. (c) The public-health problems, like sewage disposal, milk and water supplies, and general control of infectious diseases.
>
> Every pupil in the high school should be acquainted with elementary health problems in his environment. Direct application should be made to home, school, and community conditions. Definite reports of health conditions which test the powers of observation should be required. The examinations should test both the knowledge and the health habits of the pupils in home and school.

Physical activity.—In the report above referred to the requirements for physical activity are treated under three heads: Equipment, amount and kind (time allotment), kind of exercise.

Equipment.—The Central High School has magnificent outdoor possibilities. The 12 acres of level ground included in the school property offer ideal conditions for a well-nigh perfect organization of outdoor physical training activities. At present the possibilities are unrealized. The grounds are in a state of nature.

The indoor facilities are inadequate. There is one small gymnasium that must be used by both boys and girls. The shower bath, lockers, and dressing room facilities are only moderately satisfactory. There is no swimming pool. A temporary armory has been provided in connection with the military training. This is for storage of military equipment, not for exercise space.

The Vocational High School is lacking in both indoor and outdoor facilities. The gymnasium assembly room is entirely unsatisfactory; there are no bathing or dressing accommodations. The grounds are too limited for anything more than class exercises. There is no space for even teaching the elements of the more important athletic games.

The Colored High School has no facilities.

Time allotment.—In the Central High School each pupil is supposed to have 2 one-hour periods a week in the gymnasium. This is in charge of two teachers, one for each sex. As there are approximately 600 students of each sex, the fulfillment of the requirement would mean that each teacher would teach 48 pupils five hours a day, every day in the week. As a matter of fact, the teacher for the boys gives but half of his time to this work, the other half being devoted to supervision of the work in the elementary schools. No provision for physical training is made on the time schedule of the school. Classes in physical training have to "come when they can." The result is that some are entirely debarred from physical training by program conflicts; and these make necessary the assembling of mixed groups. One class of girls visited had representatives from all classes, from the first to the fourth year. Obviously, such a condition is fatal to real educational work. Pupils see no orderly progress in their attainments. They see only repetition of exercises having no logical gradation. Inevitably they come to think of physical training as a side show, not as a vital part of their education.

This condition might be alleviated by the use of the older pupils as group leaders, but this could not be done successfully by the merely fortuitous mingling of younger and older pupils. It would have to be as a result of definite planning and the training of capable group leaders.

In the Vocational High School and in the Colored High School there is no regular schedule of exercises.

Kind of exercise.—For the boys in the Central High School there are the gymnasium exercises, as indicated above, consisting largely of calisthenics and light gymnastics. Little or no time is given to teaching games and outdoor sports. Practically nothing is done for the weaker and deficient individuals (the high school quota of the fatal one-third immortalized by the selective draft). These defects of procedure are not due to lack of recognition of their importance on the part of the teacher—he is keenly aware of their importance; under the conditions he can work only with the mass.

In addition to this regular physical training schedule, a good deal of attention is given to competitive athletics, for which a coach is employed. This, of course, reaches only a small minority of boys who are rigorously selected for intensive athletic training, not in the interest of their physical development, but in the interest of interschool competition.

Recently, military training under the Junior Reserve Officer Training Corps provision of the War Department has been introduced. The program calls for one-half hour a day of military drill, including setting-up exercises. It bears no organic relation to the general program of physical education.

For the girls the entire physical-education program is covered by the two hours a week in the gymnasium. The exercise consist of calisthenics, light gymnastics, games, and dancing. No outdoor games are taught.

At the Vocational High School there is no systematized physical exercise other than the military drill. There has been sporadic cultivation of such athletics as football, baseball, and basket ball, but no regular provision has been made for this by the employment of a coach.

In both schools the customary "evils of athletics" are in evidence, evils which spring from failure to direct athletics for educational ends.

Extending benefits of athletics.—How the benefits of athletic games can be extended to all pupils is admirably illustrated by the Oak Park and River Forest Township High School in the suburbs of Chicago.[1]

> The purpose of all education is to train for citizenship. Physical education has to do with the health, the growth and development of our physical beings. We look after the health and physical development of our bodies, not primarily to make the human a stronger and more powerful animal, but to make him more able to assume his duties in society—to make him a better citizen. Physical education, then, to be education, must train for citizenship. Athletics are usually considered a phase of physical training or physical education. But to be classified they must be educational, and where they are educational they most certainly train for citizenship.
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> The most important criticism directed toward our interscholastic or intercollegiate athletics is that we overdevelop a few and neglect the masses, and

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[1] Citizenship and Athletics—A Concrete Example. By Glenn F. Thistlethwaite, physical director, Oak Park, H. S., Ill. "Mind and Body," March, 1919.

it is this mistake that demands immediate remedy. Correct this mistake and the other objectionable features will take care of themselves. When our athletes are meeting the Nation's demands in such an encouraging way the deplorable feature is that we have produced such a small number of them. While one Hobie Baker is doing such great deeds of valor as an aviator in France, think of the hundreds of others who are being rejected for different branches of the service because of physical defects.

The remedy for this error is intraschool or intramural athletics; in fact this is the panacea for all our athletic troubles. This is an old term, and a large per cent of our schools claim to have intramural sports, but what are they? Usually a few interclass games, played after the close of the regular seasons, or if during the regular seasons, pushed over to one corner of the athletic field or given the gymnasium on Friday afternoon when the varsity is not using it for practice. Such intramural athletics may pass as an excuse but nothing more. They do little good, and after a game or two the players drop out because of the lack of interest. Enthusiasm can not be kept up in something that is given little importance in the school. They should be made as much a part of the school as the interscholastic athletics, so far as the boys are concerned. What is good for the few is good for all. All have an equal right to the use of the school property, the gymnasium and the athletic field, and to the teachers' assistance.

We need more school teams, so that our athletics may be representative of the different stages in the development of our boys. In place of one team in a given sport there should be at least three, with the division made on the basis of weight and age. In sports like basket ball, football, and wrestling the weight is the important factor and is generally used as the basis of division, but in track, baseball, and soccer, where the superiority lies in endurance and skill rather than in strength, age is the best basis of division. With the number of school teams multiplied by three the number of boys participating is naturally increased in like ratio. This alone will account for the greater number of boys physically able to engage in competitive games in a small school with less than 100 boys. In larger schools, with the school sports designated as heavyweight, lightweight, and midget weight, or major, minor, and subminor, it becomes an easy matter to organize intramural leagues in each division.

In general the idea of mass athletics, as has just been outlined, is in substance the plan that the Oak Park High School Board has been gradually putting into effect during the last five years. The detail of the system has been left with the physical directors, but the board has stood sponsor and furnished the protection and inducements for furthering the plan. The path has not been a rosy one. The transition of a school that was saturated with the one-team idea into one for every boy in the game has been most difficult. The community has learned to think in terms of national championships. Football was the subject of discussion at the breakfast table, at the club, and even at church, and members of the team could have anything in the town for the asking. For a school board to change the athletic policy and have the time and energy of the coaches devoted to the interests of all the boys to the neglect of the school heroes took courage. In spite of the fact that all football games were won the first season, the followers of the team had become such expert critics that they were not satisfied with the small scores and predicted calamity. The next season, after winning the first seven games, the team lost three games. The community was disgraced, and for the time being the bottom fell out of Oak Park's reputation. But gradually the public settled down to a new level and began to take a different view of things. By degrees people awoke to the fact that an unusual number of boys were participating in the athletics. Parents began to notice that their own boys, in place of merely being the cigarette-smoking rooters, were taking on those signs of robust health and enthusiasm over themselves that they had admired in the eleven boys on the field.

No figures have been kept to show the exact number of boys taking part, but the number on the various teams in competition during last year runs over 1,000. Probably 50 per cent of these are duplicates, so it would seem that about 500 of the 600 boys in the school get into some form of organized team play.

There has been a very noticeable improvement in individual honesty and sportsmanship. The moral code in athletics has always been a most peculiar one. If a man should try to improve his lie in golf or deliberately call the score wrong in tennis no one would play with him, but in our highly organized games the referee or umpire is the sole arbitrator, and anything that escapes his eyes is considered legitimate by both players and spectators. In the intramural games students act as referees but perform little more than the mechanical part of the official's duties. Decisions are seldom disputed and questions of right or wrong are usually quickly settled by a majority opinion without any appeal to higher authorities. This democratic control makes any boy who would use foul tactics very unpopular, and no boy will long stand against the ill will of his fellows, and as a result, a spirit of good sportsmanship and clean play dominates the whole athletic situation.

VII. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

1. Every school should have decently adequate playground space and simple and inexpensive equipment.

2. Centrally located athletic fields should be provided in each logical school district.

3. Coordination of the school and community playground and athletic activities should be effected by placing them under a unified administration. Also an arrangement should be made between the board of education and the recreation commission, whereby the director of physical education in the schools shall be the responsible director of "physical recreation" supported by the commission.

4. Such school-community organizations as the parent-teacher associations should be encouraged to supplement public funds and official interest in the equipment and maintenance of school playgrounds; and in turn to stimulate and encourage official interest and the appropriation of public funds.

5. Such organizations as the Boy Scouts, Girl Scouts, Camp Fire Girls should be encouraged and coordinated insofar as possible with the administration of school and community physical education.

6. The director of school and community physical education activities should be paid a salary commensurate with the importance of his duties; and provision should be made for sufficient assistance in order that the teachers may be properly instructed and supervised.

7. Each of the high schols should be provided with a sufficient number of well-paid teachers of physical education, so that the prin-

ciples outlined in the report before referred to may be incorporated gradually into the program of the Memphis high schools. It is idle to make extended recommendations in regard to equipment, courses, and methods, unless there is first a provision for the human agents to use the equipment and to develop course and methods.

In the Central High School there are needed at least four teachers of physical education, one head teacher and one assistant teacher for each sex. The supervisor of physical education who now gives half time to the high school should be relieved. His full time is needed for general supervision. In the Vocational High School and in the Colored High School, one teacher for each sex in each school is needed. Under the scale of salaries recommended in the section on Administration, Memphis can secure teachers that measure up to the indicated requirements.

8. The 12 acres of unused grounds at Central High School should be drained and graded. A large part of the physical exercise of high-school pupils in Memphis should be out of doors all the year round, and these grounds are needed for this purpose. Indoor facilities are needed for inclement weather and can be advantageously used also for the mere formal work of gymnastics. It is an axiom to-day, however, that the indoor gymnasium is to be used only when outdoor exercise is impossible.

9. Enlarge the indoor facilities at the Central High School, especially for bathing and dressing. There is immediate need for two gymnasiums in order that the two sexes may be equally and adequately provided for. Ultimately these two gymnasiums should form a new unit of construction in the rear of the shops, at the edge of the athletic field. Each should be fully equipped with lecture rooms for teaching hygiene and with dressing and bathing facilities, including bath, shower baths, and swimming pools.

As a temporary expedient a movable gymnasium for boys should be provided and placed in the position above indicated. If the type of building described in the section on Building were used the cost would not be excessive.

This arrangement would leave the present gymnasium for the use of the girls.

Facilities for physical education are so lacking in the Vocational High School that the only logical recommendation is a new plant. Resourceful teachers, however, can do something with very meager equipment.

10 For the most part the development of the procedure of physical education should be left to competent teachers. As an administrative matter, however, those responsible for the administration of the high schools should adopt the interpretation of physical

education set forth in the Report of the Commission on Reorganization of Secondary Education and should begin at once to incorporate that interpretation into the program of the Memphis High Schools. Certain points should receive particular attention.

(A) A progressively graded course in physical education covering both instruction in hygiene and physical training activities should be projected. A correlative of this is, that provision must be made in the program schedule for classes in physical education, as genuine classes, not as mere fortuitous groupings of individuals. At least four periods a week should be provided. The report of the Commission on Reorganization of Secondary Education recommends strongly that these be grouped into two double periods and give a sample schedule worked out on that basis. It should be understood that these periods primarily are for teaching; that they do not furnish the amount of exercise needed by students. They must be supplemented by "after-school" games, athletics, and other forms of exercise. Work should be included, but work should be evaluated in terms of physical development.

(B) Provisions should be made for at least an annual examination of high-school pupils with the object of a clear understanding of the developmental needs of each individual. The examination should be recorded and used for charting the work of the individual pupil.

(C) School credit should be given for the work in physical education. The recommendation of the report previously cited is as follows:

> The courses in hygiene should receive credit on the same basis as other classroom subjects. The physical practice in gymnastics, athletics, games, and swimming should receive positive credit on the same basis as laboratory courses. The hygiene instruction should be graded on the basis of classroom recitations and examinations. The physical practice should be marked on the basis of the quality of the work and on the effort of the pupil in daily practice. Tests of minimum physical proficiency should be given at regular intervals.

An improvement upon this would be to include three elements in the grading: (1) Information acquired as shown by recitation and tests; (2) personal health progress as shown by growth, freedom from illness, correction of defects, etc.; (3) progress in physical ability as shown in mastery of the various physical training activities.

(D) Athletics must be recognized, clearly and unequivocally, as a part of the physical education program, and must be brought under the exclusive control and direction of the school. Interschool competitive athletics should be retained and wholesomely controlled; but the benefits of athletic games should be extended to all the pupils.

(E) Military training should be brought into its normal coordination with physical education. The details need not be specified. They must be worked out through intelligent cooperation of the military instructor and the physical instructor.

(F) The work in physical education in the high schools must be seen in its relation to the elementary school program and to the general community scheme for physical recreation Hampering restraints must be avoided, but administrative coordination is necessary.

11. Define the respective obligations and duties of the health department and of the school department with respect to health examination and supervision. Increase the facilities and financial support of both departments.

12. Coordinate the several lines of work now carried on by the schools in a division of school hygiene or "school health service" in charge of a director who combines technical and executive competence.

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